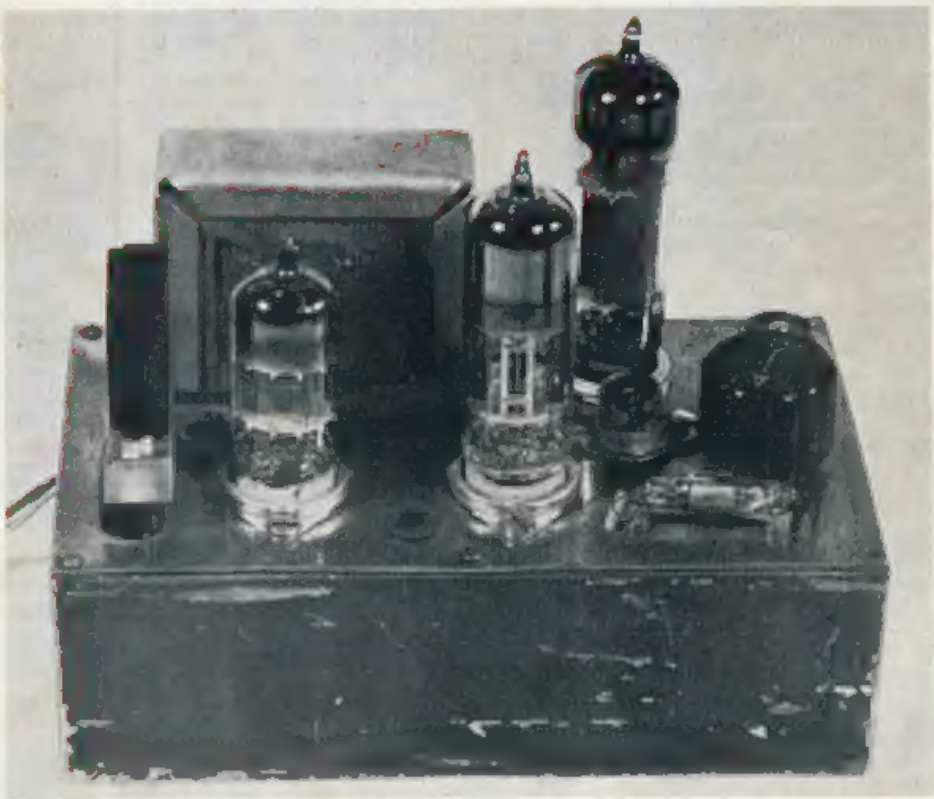
AMATEUR RADIO

MARCH 1962



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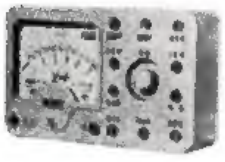

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1C7	3/-	7 a	£1	6SH7	4/-	5 a	£1
1D5GT	5/-	5 a	£1	6SJ7	12/6		
1D8	7/6	3 a	£1	6SK7GT	12/6		
1F5	7/6	3 a	£1	6SL7GT	12/6		
1H4	5/-	5 a	£1	6SQ7	12/6		
1H5	5/-	5 a	£1	6SS7	7/6	3 a	£1
1H6	5/-	5 a	£1	6V4	11/4		
1K4	5/-	5 a	£1	6X5	10/-		
1K5	5/-	5 a	£1	6Y6	5/-	5 a	£1
1K7	5/-	5 a	£1	7A4	5/-	5 a	£1
1L4	5/-	5 a	£1	7A8	2/-	11 a	£1
1M5G	5/-	5 a	£1	7B8	7/6		
1N5	5/-	5 a	£1	7C5	5/-	5 a	£1
1P5	2/-	10 a	£1	7C7	2/-	12 a	£1
1Q5	5/-	5 a	£1	7E6	3/6	7 a	£1
1S4	7/6	3 a	£1	7F7	5/-	5 a	£1
1S5	10/-			7W7	2/6	10 a	£1
1T4	5/-			7Z4	7/6	3 a	£1
2A3	7/6			12A6	4/-	6 a	£1
2A5	7/6			12AT7	7/6		
2A6	7/6			12SA7GT	10/-		
2D21	15/-			12AH7	5/-	5 a	£1
2X2	5/-	5 a	£1	12C8	5/-		
3A4	10/-			12J5	5/-	5 a	£1
3AP1	35/-			12K8	5/-	5 a	£1
3BP1	45/-			12SF7	5/-	5 a	£1
3Q5	5/-	5 a	£1	12SG7	5/-	5 a	£1
3Q4	10/-			12SK7	5/-	5 a	£1
5V4G	15/-			12SR7	5/-	5 a	£1
5Y3GT	13/9			14A7	3/6	7 a	£1
5Z3	17/6			25L6	5/-		
6A3	7/6	3 a	£1	117Z6	5/-	5 a	£1
6A6	7/6			1625	5/-	5 a	£1
6AJ5	7/6	3 a	£1	1626	5/-	5 a	£1
6AG5	5/-			1629	5/-	5 a	£1
6AG7	12/6			30	1/3		
6AM5	(EL91)	10/-		35T	30/-		
6AM6	(EF91)	10/-		717A	7/6	3 a	£1
6B4	10/-			726A	10/-		
6B7	10/-			807	7/6	3 a	£1
6B8	17/6			808	15/-		
6BE6	12/6			815	15/-		
6C4	5/-	5 a	£1	830B	15/-		
6C5	5/-	5 a	£1	832A	19/6		
6C6	5/-	5 a	£1	866	32/6		
6C8	10/-			954	5/-	5 a	£1
6D6	5/-	5 a	£1	955	5/-	5 a	£1
6E5	5/-	5 a	£1	956	5/-	5 a	£1
6F5	7/6			958A	2/6	10 a	£1
6F6	12/6			2051	5/-		
6F7	10/-			9003	7/6	3 a	£1
6G6	7/6	3 a	£1	AV11	2/11		
6G8G	17/6			DL75	2/6	10 a	£1
6H6	Glass	2/6		EA50	2/-	10 a	£1
6H6	Metal	3/6		EC91/6AQ4		10/-	
6J6	10/-			EF36	5/-	5 a	£1
6K7	5/-	5 a	£1	EF39	5/-	5 a	£1
6K8G	20/-			EF70	5/-	5 a	£1
6L7	5/-	5 a	£1	EF72	5/-	5 a	£1
6R7	7/6	3 a	£1	EF73	5/-	5 a	£1
6T7	7/6	3 a	£1	EY91	5/-		
6Z7	7/6	3 a	£1	QV04/7	15/-		
6SA7	10/-			QE04/10	15/-		
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				RL18	7/6	3 a	£1

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Well known make. Brand New.

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VR53	5/-	5 a	£1	VT52	5/-		
VR101	5/-	5 a	£1	VT127	4/11	5 a	£1
VR102	5/-	5 a	£1	VT501	7/6	3 a	£1
VR103	5/-	5 a	£1	Y65	5/-		

"AMATEUR RADIO"

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WI Broadcasts:

VK2WI: Sundays, 1100 hours EST, simultaneously on 3573 Kc., 7146 Kc., 50.16 Mc. and 145.13 Mc.; Intrastate call-backs taken on 7030 Kc. VHF 1930 hours EST on 50.16 Mc. and 145.13 Mc.; call-backs taken on 2 metres.

VK3WI: Sundays, 1030 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate hook-ups taken on 7135 Kc.

VK4WI: Sundays, 0900 hours EST, simultaneously on 7146 Kc. and 14.342 Mc. Intrastate hook-ups taken on 7105 Kc.

VK5WI: Sundays, 0900 SAT, on 7146 Kc. Relays on 3.7, 14.2, 50.02, 144 and 288 Mc. Intrastate hook-ups taken on 7125 Kc.

VK6WI: Sundays at 0930 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3672 Kc. Intrastate hook-ups taken on 7115 Kc.

★

OUR COVER

The unit shown, the "Minitran 6-2" is a compact two or six metre transmitter, which is more fully described on page 3.

COMMENT

★

W.I.C.E.N. AND EMERGENCY SERVICES

The recent tragic fires in Victoria served as a grim reminder of the price of complacency—the common belief that an emergency service was unnecessary because the State had been disaster free for a considerable period was suddenly shattered.

Those Radio Amateurs who rose to meet the occasion earnt the thanks of the general public by the good work they were able to do under great difficulties.

How much more effective their efforts would have been had they had the advantage of regular practice and co-operation with other emergency services?

Several lessons are to be learnt from this experience. Firstly, the Institute must continue to fight to overcome apathy of Governments and the opposition of Instrumentalities to proper organisation of emergency services.

Secondly, the feeling within our own ranks that unless encouraged by Government activity regular practice by W.I.C.E.N. members is pointless must be overcome.

The most important fact that emerges is the need for enthuiastic leaders prepared not only to organise regular exercises for W.I.C.E.N., but also to sell its services to every organisation with which co-operation would be necessary in an emergency.

In an emergency full co-operation of Defence Forces, Police, Fire Brigades, Red Cross and Relief organisations is essential. In certain cases such as bush fires the Forestry Commission, Roads and Water authorities are involved. Effective correlation of effort place heavy demand on communications.

It is easy for everyone to sit down after the event and criticise the effort and duck-shove the responsibility for failure. However from the Amateur point of view, if every active Amateur took a quarter of an hour per week to practice proper procedure in a properly constituted net, led by enthusiastic and able leaders, there would be no need for heart burnings within our ranks. Furthermore, responsible authorities could not ignore the value of such a service.

FEDERAL EXECUTIVE, W.I.A.

CONTENTS

PHILIPS

TRANSMITTING AND RECTIFYING TUBES FOR MOBILE EQUIPMENT

The necessity of telecommunication equipment for sea and air transport is obvious. In this field, telecommunication equipment is often obligatory. In many other fields, however, a need for communication is equally felt, but the bulk and cost of transceivers of usual design has long been prohibitive. Faced with this problem, equipment designers and tube and component manufacturers, working in close co-operation, have gradually developed mobile transmitting equipment that successfully combines small dimensions, low cost, ease of operation, high and dependable performance. As a result, mobile telecommunication equipment is being used on an ever-increasing scale in numerous fields, as, e.g.:

- coasters.
- motor launches of shipping agencies, ships' chandlers, contractors of harbour works.
- small fishing boats.
- tugs (e.g., for direct communication with their tow).
- seagoing yachts and other small maritime craft.
- fireguard for contact with central office.
- taxi cabs for contact with the central point.
- doctors' cars for contact with their base.
- building firms for contact between remote or not easily accessible spots.
- public utility firms for contact with their outside personnel.
- service firms for contact with their personnel on vehicles.
- lonely farms in sparsely populated areas.
- airport vehicles.

Transmitting tubes PREFERRED TYPES

Further additions to the range of "quick-heating" tubes will be announced shortly.

TUBE OUTPUT IN CLASS C TELEGRAPHY

TYPE OF TUBE	QQE02/5 Double Tetrode (6939)	QQE04/5 Double Tetrode	QQE03/12 Double Tetrode (6360)	QQE03/14† Double Tetrode (7883)	QQE04/15 Double Tetrode (5895)	QQE03/20 Double Tetrode (6252)	QE05/40 Tetrode (6146)	QC05/75‡ Tetrode (8242)	QQE06/40 Double Tetrode (5894)	QEL1/150 Tetrode (4 x 150A)	QE08/200 Tetrode	PE1/100 Pentode (6083)	TB2.5/300 Triode (5865)	QB3/300 Tetrode (6155)	TB2.5/400 Triode	TBL2/300 Triode
(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)
2 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	52 69•	52 69•	90	195	200	132	390	375	390	500
20 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	52 69•	52 69•	90	195	200	132	390	375	390	500
30 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	52 69•	52 69•	90	195	200	132	390	375	390	500
60 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	52 69•	52 69•	90	195		132	390	375	390	500
100 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	40 53•	40 53•	90	195			390	375	390	480
120 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	35 47•	35 47•	90	195			390	375	390	475
150 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	26.6 35.0•	48	29 40•	29 40•	90	195			390	360	390	465
200 Mc/s	5.8 7.2•	7.0 8.0•	14.5 18.5•	14.5 18.5•	20.0 24.0•	48			90	185			197	225		445
300 Mc/s	5.8 7.2•	7.0 8.0•			6.5 8.0•	34.5			75	170						400
430 Mc/s	5.8 7.2•	7.0 8.0•				23			66	155						350
500 Mc/s	5.8 7.2•	7.0 8.0•				22			60	140						325
600 Mc/s		7.0 8.0•				20										290
890 Mc/s		7.0 8.0•														180
960 Mc/s		7.0 8.0•														

• Intermittent. † "Quick-heating" version of type QQE03/12 (6360). ‡ "Quick-heating" version of type QE05/40 (5146).

PHILIPS

The "Miniwatt"

ELECTRONICS DIVISION OF
PHILIPS ELECTRICAL INDUSTRIES PTY. LIMITED
SYDNEY • MELBOURNE • BRISBANE • ADELAIDE • PERTH • HOBART • NEWCASTLE • CANBERRA • WOLLONGONG

PH649/61/E

THE "MINITRAN 6-2" TRANSMITTER

By VK2ZTM, VK2ZCF, and VK2ZCK

THIS unit was created by a building project plus a change of plans, as Dick VK2ZCF, when building an exciter for 576 Mc., used a 12BY7 in the oscillator chain; the output from this tube tempted him to retune the coils to 144 Mc., add a modulator and the result was the "Minitran 2". These rigs have been used by both Dick and Tim VK2ZTM as mobiles for over a year and in addition they performed satisfactorily on an Interstate trip; several have now been built in VK2.

Reg VK2ZCK suggested that the 144 Mc. unit could be converted to 50 Mc. and its success added the full title to the article, the "Minitran 6-2".

The unit features a twin triode as an overtone crystal oscillator, with the second half acting as a tripler on two metres and as doubler on six, driving the p.a. stage, a 12BY7. This is modulated by a 6BM8, the triode section acting as an input pre-amplifier. Circuit is given in Fig. 1.

★ An ideal simple rig for a car mobile or as the basis for an exciter for a higher powered unit.

CONSTRUCTION

Before commencing the construction, study the illustrated Figs. 2 and 3 which will identify the major parts.

First stage (V1): The slug-tuned former L1 is tuned to the third harmonic of the crystal (8 Mc. for 2 metres; 8.333 Mc. for 6 metres). The L1 former is from the 522 receiver (¼" diam. slug tuned) from which are removed five turns so that it resonates at 24 Mc. for 2 metres and 25-26 Mc. for 6 metres. Frequency changes of some one megacycle have no noticeable effect upon output or interstage tuning.

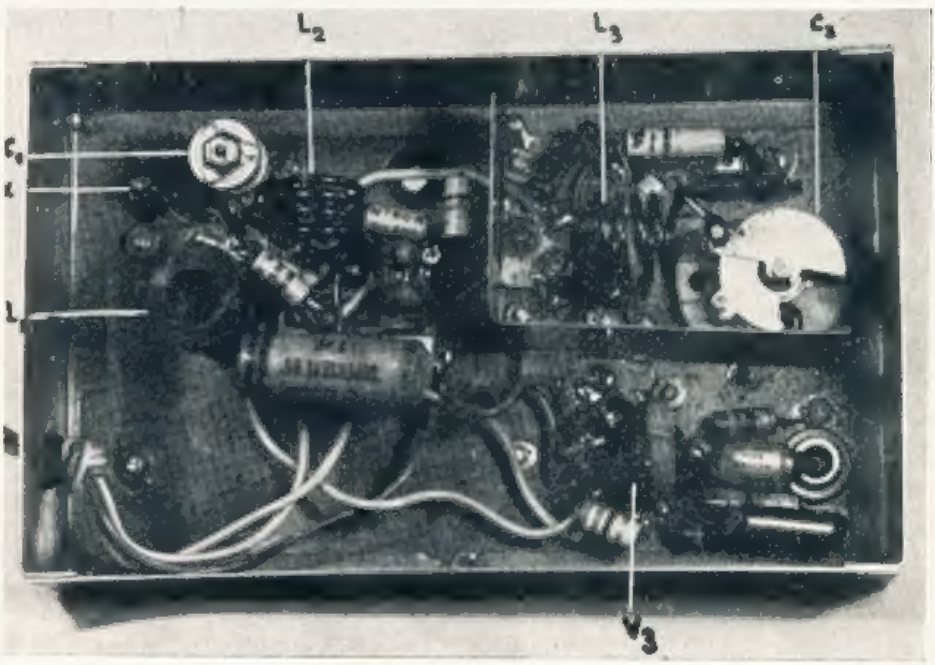
[In using an overtone circuit it should be checked, by listening for the fundamental output on a receiver, that the crystal is actually operating in its overtone mode and in the correct overtone. When operating correctly, no output can be heard at the crystal fundamental frequency.—Ed.]

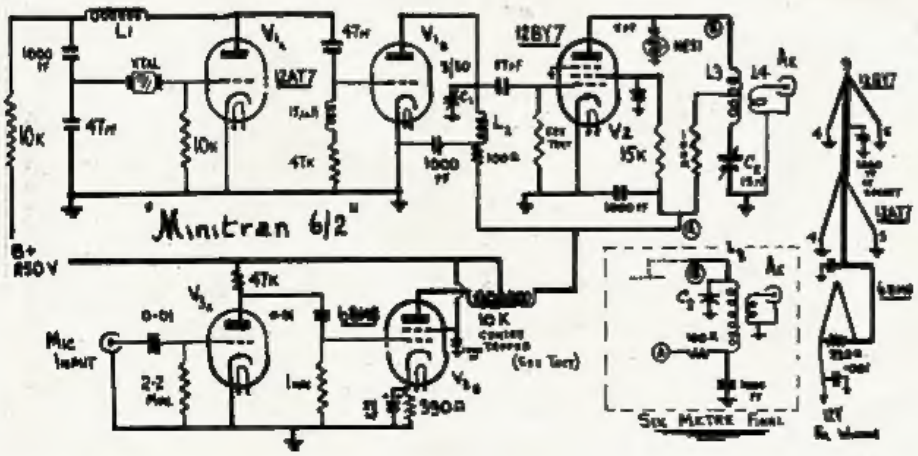
Second stage (V1a): This stage is tuned with a 3-30 pF. Philips trimmer and the addition of the 15 µH. t.v. type choke at the grid pin, in series with the grid resistor, greatly increases the grid drive. [This is possibly due to the increased impedance offered by the combined circuit.—Ed.]. In addition this stage is fed with modulated h.t. The plate coil L2 comprises six turns on ¼" diam. former of 16 s.w.g. (for 6 metres) and four turns of 16 s.w.g. on ¼" diam. for 2 metres. These coils should resonate, with the 3-30 pF. Philips trimmer, to 50 and 72 Mc. for 6 and 2 metres respectively.

Final stage: This comprises a 12BY7 which is a miniature sharp cut-off pentode normally used as a video amplifier in t.v. sets. Its maximum rating is 300 volts. In normal operation plate 250v., plate current 25 mA., grid 2 150v., with grid 3 earthed. Filaments are on pins 4, 5 and 6 which can be used as 6.3 or 12.6 volt heaters.

Mount the socket and earth the following pins with very short direct connections 3, 4, 5, 9 and 1. A shield is then run across the socket earthed to the centre spigot and the chassis at both ends. The 0.001 µF. by-pass capacitors, see Fig. 1, should be connected directly from the socket pins and thence to earth by short direct leads. [Note filaments are wired for 12v.; alter if 6v. supply.—Ed.]

The grid resistor for the p.a. (12BY7) is 12K for 6 metres and 47K for 2 metres; p.a. tuning is by means of a 50 pF. condenser (Eddystone 553). The p.a. functions vary according to the band used; on six metres it is used as a straight amplifier, parallel tuned by L3 (seven turns 16 s.w.g., ¾" diam. with an output link L4 consisting of a one-turn link of **insulated** hook-up wire at the feed point end of the tank circuit (see Fig. 2). However on 2 metres the p.a. acts as a doubler, being series tuned by L3 (four turns 16 s.w.g. ¾" diam. with an output link of one turn of **insulated** hook-up wire tightly coupled at the centre of L3. The h.t. is fed via a 100 ohm resistor to the centre tap of L3.)





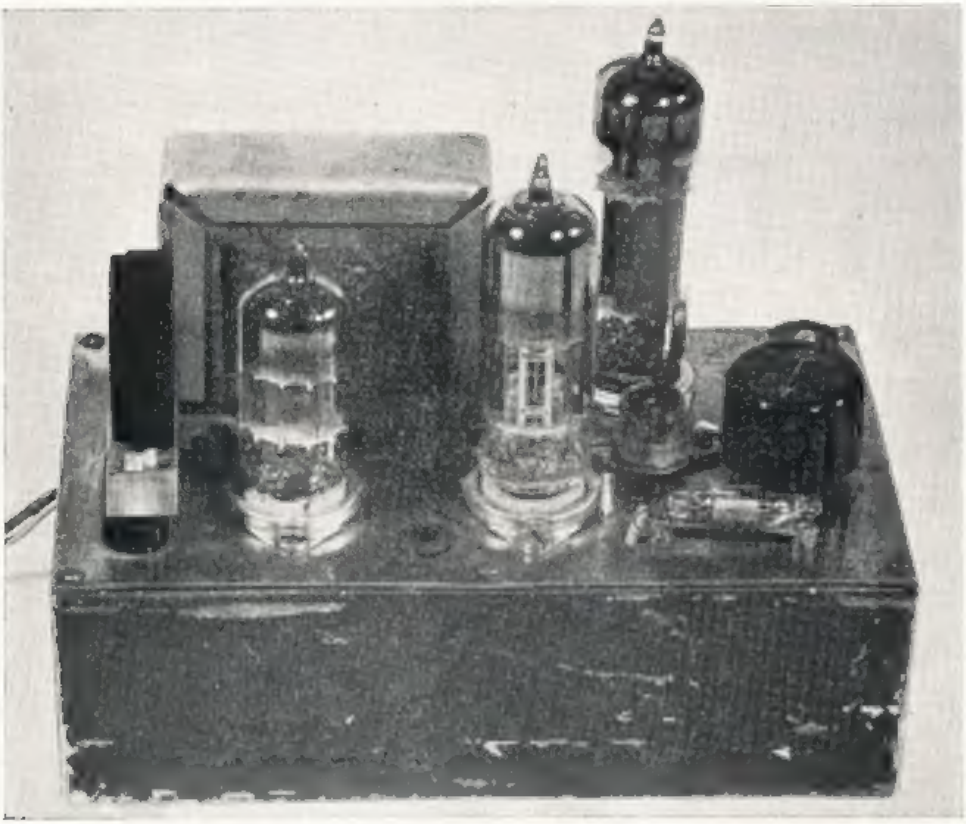
MODULATOR

This comprises a dual triode pentode tube (6BM8), one section, the triode, being used as a pre-amplifier coupled to a crystal mike. It is then capacity fed to the pentode section, the output plate of which is fed into a centre tapped 10K ohm speaker transformer

used as the modulator transformer. No gain control is used, thus the higher the output of the crystal mike the better. (Take particular care in using a crystal mike in a car, as the heat will ruin its performance. Never leave it in the glove box nor exposed to the direct sun's rays.)

AERIAL

For mobile work the writers have used a whip aerial fed by 72 ohm co-ax. For 2 metres it is extended to 22", and to 56" for 6 metres; a close-spaced three element beam has also been used. To tune the aerials for maximum power output, a condenser should be placed



GENERAL

Construction and layout is not critical, other than where mentioned. The chassis used for the units so far constructed has been a 6" x 4" x 2" unit, and a shield should isolate all sections (see photograph), particularly between the oscillator, audio, and p.a. sections.

A three-pole two-position wafer switch can be used as the transmit-receive switch.

ALIGNMENT

All coils should be first roughly aligned by use of a g.d.o., then when the crystal is inserted the final touching up can be done. The following chart will give the correct frequencies for use on the 6 and 2 metre bands:—

	6 Metres	2 Metres
L1	25 Mc.	24 Mc.
L2	50 Mc.	72 Mc.
L3	50 Mc.	144 Mc.

No indicating meter is used in this circuit as the neon globe, NE51 type, is used for this purpose. To start the neon, whistle into the mike, then peak each stage for maximum glow, and dip the final for maximum light output from the neon, which also serves as a modulation indicator. Incidentally, the use of a 1 meg. resistor, in place of 5 pF. coupling capacitor to the 12BY7 plate, does not appear to have the same loading effect upon the final.

in series with L4 and earth; this is then tuned for maximum output from the 12BY7 p.a. stage.

COILS

Coil details are as follows:—

	6 mx	2 mx
L1 (½" diam. ex 522 set)	Remove 5 turns	
L2 (¾" diam., 16 s.w.g. enamel)	6T	4T
L3:—		
¾" diam. air spaced, 16 s.w.g. enamel	7T	
¾" diam. air spaced, 16 s.w.g. enamel		4T

PARTS LIST

Chassis 6 x 4 x 2 inches.
10,000 ohm speaker transformer, centre tapped.
Slug former, ex SCR522 receiver.
Crystal socket.
Co-ax plug for antenna.
Microphone socket.
Three 9-pin ceramic sockets.
3-30 pF. Philips trimmer.
50 pF. variable capacitor (Eddystone 553), C1.
Valves: 12AT7, 12BY7, 6BM8.
Crystal: 8 Mc. for 2 metres; 8.333-8.5 Mc. for 50-51 Mc. (If operating near band edge check frequency as ordinary type xtals differ in frequency when used as overtone oscillators. Normally they run 20-50 kc. low at 2 metres!)
Resistors: 2 x 100 ohms, ½w.
1 x 220 ohms, ½w.
1 x 390 ohms, ½w.
1 x 10K ohms, ½w.
1 x 10Kohms, 1w.—R1.
1 x 12K (for 6 metres only), ½w.
1 x 15K ohms, 1w.
1 x 47K ohms, 1w.—R2.
2 x 47K ohms, ½w. (only 1 on 6).
1 x 1 meg., ½w.
1 x 2.2 meg., ½w.
Capacitors: 2 x 0.01 µF., 600v. paper.
1 x 0.1 µF., 600v. paper.
1 x 25 µF. electrolytic, 25v.
8 x 0.001µ uF. for bypassing, ceramic, 500v.
2 x 47 pF. mica 600v.
1 x 27 pF. mica 600v.
1 x 5 pF. mica 600v.
1 x 15 µH. peaking choke, type VPC15.

— • • • —

EX-MEMBERS OF THE R.A.A.F.

A number of VK2 Amateurs who are ex-members of the R.A.A.F. Radio Branch, and located in the Sydney area, have decided to set up a c.w. net as a means of getting together and keeping in touch and invite all other Amateurs who are ex-R.A.A.F. to join in as the urge takes them.

The net will be known as the "Blue Orchid Net" and will operate on 3535 Kc. at 1000 G.M.T. For the present the nights will be Tuesday, Thursday, Saturday and Sunday. CQ B.O.N. will be the rallying call and it is hoped this net will bring together many of the ex-R.A.A.F. Amateurs whose only contact is during the R.D. Contest each year.

Zero day, March 3.—VK2QL.

INCREASED AUDIO WITHOUT SPLATTER*

BY JOHN L. REINARTZ

IT is not generally realised, especially in cases where the Class B modulator transformer has poor regulation that a higher ratio of audio output in the positive direction can be obtained if the secondary of the transformer has an additional assymetric load placed on it through the use of a diode tube and appropriate resistor. See attached diagram.

If the negative voltage excursion of the Class B transformer secondary just equals the plate supply voltage, then the positive voltage excursion cannot be as far because in the first instance there is no load across this secondary at the end of the negative voltage excursion and consequently no voltage drop, while in the second instance there is a maximum load across the secondary as the voltage swings in the positive direction with its consequent IR voltage drop and this subtracts from the positive voltage swing.

Placing an extra load on the transformer secondary through the use of a diode and series resistor so that this combination allows loading only on the negative voltage swing, provides a means for preventing the negative voltage excursion from exceeding the positive voltage excursion to any degree desired.

Adjustment of the resistor value can be such that the voltage and modulating power output of the Class B transformer secondary is even greater in the positive direction than in the negative direction with consequent greater modulation effects without, however, exceeding 100% modulation.

A summation of E_1I and E_2I will show that the requirement of a 50% modulating power for 100% modulation factor is not changed. It is interesting to note that there is a 16% load on the Class B transformer secondary during the negative voltage excursion and an 84% load on it during the positive voltage excursion with respect to the polarity of E_1. Thus there already exists an assymetric loading of the Class B transformer secondary during an audio cycle.

The addition of the extra load proposed in B during the negative voltage excursion, if of proper value, results in nearly perfect symmetry loading of the Class B transformer secondary during the negative as well as the positive voltage excursions.

Let us consider a Class C r.f. stage that is to be amplitude modulated. This Class C r.f. stage is capable of a linear plate current increase with a linear plate voltage increase from a value that may be considered to be the d.c. plate voltage Eb to twice this voltage 2Eb. Thus the plate input will go from X watts to 4X watts. Consequently the stage being linear, it can be considered to represent a constant load R, determined by Eb/Ib, Ib being the average plate current and Eb being the plate voltage E_1.

If we now add the modulating transformer to the Class C r.f. stage in the usual manner, shown in A of the attached graph, we can consider the secondary of the modulating transformer E_2 to be the equivalent of E_1 in voltage output, since 100% modulation is to be achieved. By definition, 100% modulation is achieved when $E_1 - E_2 = 0$, Ib = 0 and the output from the Class C r.f. stage is zero. Anytime that $-E_2$ is greater than E_1, overmodulation occurs, no current flows through the Class C r.f. stage since it is a unidirectional valve and the carrier power is interrupted.

Interruption of the carrier power can result in spurious sidebands that interfere with other uses of those frequencies and are to be avoided. These spurious frequencies are also generated when negative clipping is resorted to unless a filter is inserted in the circuit to round off the sharply clipped edges. However, it usually is impossible to re-establish the original wave form, thus some distortion is invariably present in the modulated output. The only reason for negative clipping and subsequent filtering being the desire on the part of the Radio Amateur for an increased modulated carrier output during the positive voltage swing of the modulation transformer secondary, yet prevent the modulation transformer secondary voltage swing in the negative direction from exceeding the normally applied d.c. plate voltage, consequently preventing the generation and emission of spurious frequencies.

It occurred to the writer that it should be possible to increase the emission in the positive direction of modulation without the need for clipping in the negative direction of modulation and thereby prevent both overmodulation and audio distortion. As an aid in visualising the action of the modulation transformer secondary and its effect on the Class C r.f. stage, an analysis of the several instantaneous values was made and the results shown as curves on cross-section paper.

Several interesting items not previously detailed in textbooks became clear and obvious. The separation of the total power output due to the instantaneous sum of the d.c. plate and the a.c. modulation transformer secondary voltages into their component factors E_1 and E_2 is clearly shown in the graph. It is also shown quite clearly that while the full $-E_2$ voltage is developed during the negative voltage generation of the modulation transformer secondary equal to the d.c. plate voltage E_1, there actually is no load on either of these two generators. Only when the full $-E_2$ voltage is developed during the positive voltage generation of the modulation transformer secondary equal to the d.c. plate voltage E_1 are these separate generators fully and equally loaded.

The load curves for generators E_1 and E_2 are clearly a function of their instantaneous voltages and the instantaneous current I in the circuit system. Obviously E_1 is constant, I varies from zero to 2I and E_2 varies from zero to the value of E_1 additive, or subtractive. The load curve for generator E_1 is therefore a straight line between zero and 200% load, while the load curve for generator E_2 is a curve in the positive load direction from zero to 200% and a curve in the negative load direction from zero to a maximum of 25% load and continuous toward zero load at its maximum negative voltage swing. The sum of these two genera-

* Reprinted by courtesy of Eitel-McCullough, Inc., San Bruno, California.

$\%E_1$	$\%E_2$	$\%E_1+E_2$	%I	$\%R_1$	$\%R_2$	$R = R_1\%+R_2$
100	0	100	100	100	0	100
100	20	120	120	83.3	16.7	100
100	40	140	140	71.4	28.6	100
100	60	160	160	62.5	37.5	100
100	80	180	180	52.4	47.6	100
100	100	200	200	50.0	50.0	100
100	20	80	80	125	—25	100
100	—40	60	60	166	—66	100
100	—60	40	40	250	—150	100
100	—80	20	20	500	—400	100
100	—100	0	0	00	—00	0

Table 1.

	Gen. 1			Gen. 2	
$\%E_1$	%I	%Po	$\%E_2$	%I	%Po
100	0	0	0	100	0
100	20	20	20	120	24
100	40	40	40	140	56
100	60	60	60	160	96
100	80	80	80	180	144
100	100	100	100	200	200
100	120	120	—20	80	—16
100	140	140	—40	60	—24
100	160	160	—60	40	—24
100	180	180	—80	20	—16
100	200	200	—100	00	0

Table 2.

HEATHKIT

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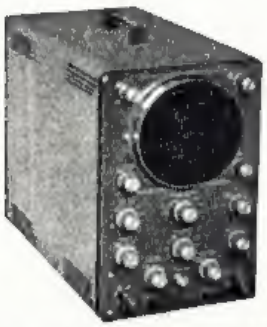

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PERTH: Tough Instrument Service Co., 993 Hay St. Phone 21-7615.
(Prices slightly higher in W.A.)

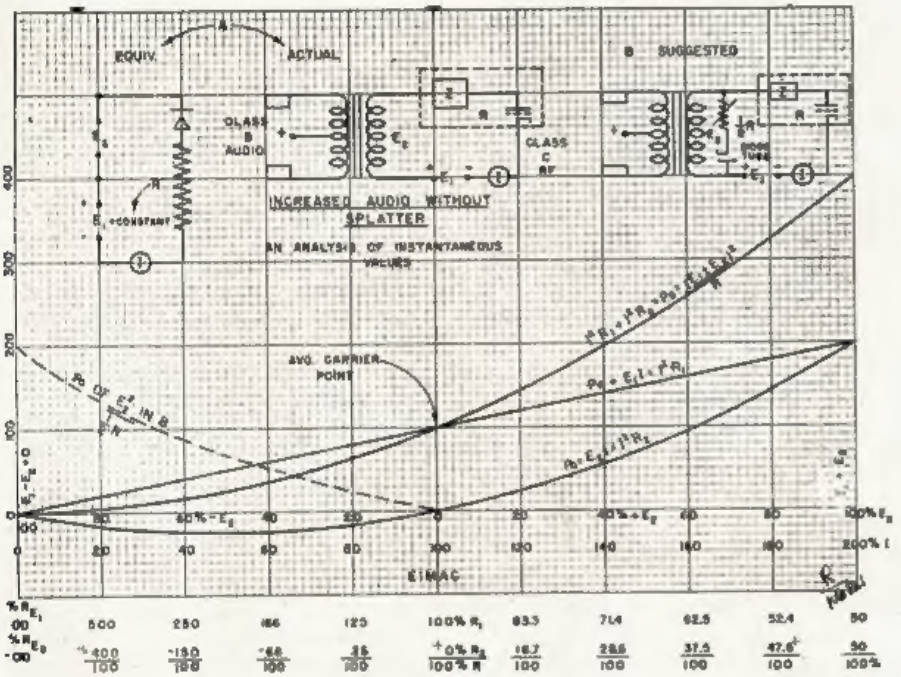
tor loads is, of course, I ($E_1 \pm E_2$) = I $2R_1$ + I $2R_2$ = $(E_1 \pm E_2)^2 \div R$.

We now have brought R, R_1 and R_2 into our analysis and it is interesting to note that the resistances across generators E_1 and E_2 vary as the sum of $E_1 \pm E_2$ varies. When the modulating voltage is zero, the system R obviously is the value E_1/I and represents the Class C stage load at the average carrier point shown in the graph. However, when the generator voltage E_2 equals generator voltage E_1 and is additive, the resistance R divides into R_1 and R_2 and each generator sees ½R. This can be more readily understood if we analyse Fig. A through C. When E_2 equals E_1 but is subtractive, I equals zero, generator E_1 sees a positive infinity resistance and generator E_2 sees a negative infinity resistance and the sum therefore equals zero. However, the sum of the separate resistances that generators E_1 and E_2 see is always equal to the value R at all other points on the varying $E_1 \pm E_2$ voltage curve.

series, connected across the modulating transformer secondary so that current flows in this auxiliary circuit only when the voltage swing is in the negative direction is therefore indicated. The value of the resistance we have already determined to be ¼R, while its watt rating should be $I^2R \div 4$.

%$E_1 + E_2$	%I	%Po
100	100	100
120	120	144
140	140	196
160	160	256
180	180	324
200	200	400
80	80	64
60	60	36
40	40	16
20	20	4
0	0	0

Table 3.



Having noted that the generator E_2 sees no load when its voltage equals the voltage of E_1 but is subtractive and sees ¼R when its voltage equals E_1 but is additive, it follows that no voltage drop occurs in the first instance and maximum voltage drop occurs in the second instance due to the losses that occur in the modulating transformer secondary winding, constituting its own Ir drop and since this Ir drop subtracts from the positive voltage swing, if we can still equal E_1 at this point, we must somehow prevent the negative excursion from exceeding E_1 by the amount of the Ir drop, otherwise we exceed 100% modulation.

We have now come to the crux of the whole analysis. We require a means to produce an Ir drop in the modulation transformer secondary when its voltage swing is in the negative direction to equal the Ir drop when its voltage swing is in the positive direction. A diode tube with a resistor in

The loading on the modulation transformer secondary when its voltage swing is in the negative direction will now be as indicated by the dotted line in the graph. It will be noted that the modulator system now has a symetrical loading during the negative as well as positive voltage swing, resulting in reduced second harmonic distortion, full modulation on the positive voltage swing and prevention of overmodulation on the negative voltage swing. ●

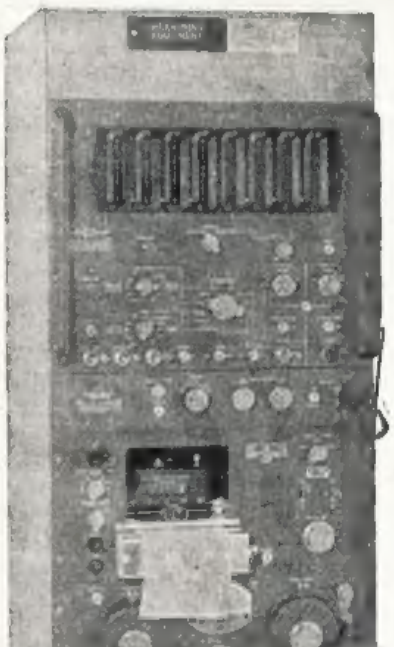
CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

Trade Review

G.R. DIGITAL TIME AND FREQUENCY METER

The name "General Radio" has been accepted for many decades amongst those who value good equipment. Their latest addition to a very comprehensive line is the new Digital Time and Frequency Meter, Type 1130A. This is a high speed storage, computer type, circuit with a range from "d.c." to 10 Mc., with an accuracy of ±1 count ± time base accuracy. The latter is supplied by an external 5 Mc. unit, Type 1113A, with an accuracy of one part in 10^{10} per minute, or two parts in 10^9 per week. The counting rate is signalled by eight decades arranged in tandem, but with a difference; each decade of four can be used independently, one decade holding a count, the other similtaneously counting.



The multivibrator circuits, etc., are on printed circuit boards which can be quickly removed for service; in addition circuit boards can be provided as spares, thus reducing service time.

The equipment features the accepted G.R. finish and the use of two colour contrasts on the panel controls makes interpretation of information an easier task. Extras can be provided for digital to anolog converter, a data printer, standard frequency oscillator, servicing accessory, and a frequency converter for measurements up to 500 Mc.

This equipment would be of value wherever accurate time or frequency measurements, etc., are required in a short time interval, as dead time is 20% of the counting interval (2 msec. to 2 seconds).

Full or technical information is available from Warburton Franki offices in New South Wales, Victoria, Queensland, South Australia, and Tough Instrument Service Co. in Perth.

FOUR HAMS AT NORFOLK ISLAND

During November and December, VK5XK took a holiday on Norfolk Island. At that time there were four VK Amateurs located on the island at the one time—some kind of a record!

The photograph shows (left to right): Arch Hewitt (VK5XK), Ray Hoare (VK9RH), Ray Baty (VK9GP) and Dave (VK2GT). They are all employed in connection with communications. 5XK, P.M.G. Dept.; 9RH, D.C.A.; 9GP, O.T.C. cables; 2GT, D.C.A.

Dave VK2GT was not on holidays but working. He had no rig with him. Ray VK9GP, who is a wag, said, "Well, let 'em drop all the H bombs now. The gang here should be able to manage any emergency in communications." He might have been correct too!

—Arch Hewitt, VK5XK.

☆

Amateur Station on Display at Adelaide University

The University of Adelaide Radio Club (VK5UA) will be operating an exhibition Amateur Radio Station at the Adelaide University during the week March 5-9.

Through the courtesy and co-operation of R. H. Cunningham Pty. Ltd. it is expected to have two stations active, one a K.W. "Viceroy"/Eddystone combination, will operate on 40 and 20 metres s.s.b. and c.w., and the other, a Geloso G222-TR/209-R combination will work on 40, 20 and 15 metres a.m.

All Amateurs are requested to make a point of listening for and contacting the stations during 5th to 9th March. Those Amateurs who visit the exhibition will be welcome.

N.S.W. DIVISION'S 12th ANNUAL CONVENTION AT DURAL

Convention times comes, Convention time goes, each with its pleasant memories of meeting that other fellow, but we feel that the recent Convention held by the N.S.W. Division will remain a pleasant memory for many years.

The day dawned dull and overcast, later turning to a light but continuous drizzle, but not sufficient to dampen the ardour of the 207 men and 37 ladies who attended at the grounds of the Divisional Station, 2WI, at Dural, a pleasant spot some 25 miles from Sydney. Representatives were present from most parts of the State and included a visitor from VK3 and also a visitor from Portland, Oregon, U.S.A., in the person of Mack McNally, W7JDX.

The Convention commenced for many some miles from Dural as a mobile scramble was held en route with many mobiles participating, only one casualty being reported, that of Bill 2XT who suffered the misfortune of losing the top of his whip during the contest while negotiating Galston Gorge.

On arrival at the location of the "Do" it was found that the registration tent was manned by Alan L2185 and Tony L2289, who deftly, but kindly separated the necessary 5/- from each adult, children being admitted free of any charge. The great mass of folders of technical literature and leaflets were immediately dispensed at the booth, leaving all to go their way and to take their part in the many activities.

For the first time in Australia, mobile stations were checked and assessed for such points as field strength, installation, finish and design, transistor usage, frequency control, netting facility, metering facilities, road safety features, and antenna design and installation, operable on either 7 Mc. or 146 Mc. The F.I. testing was under the control of Harold 2AAH with Ted 2ACD doing the necessary pencilling. The assessment, a long and exacting task, was undertaken by Oak 2OO, Max 2MP and Ted 2ACD.

While all this was proceeding to schedule, morning tea was organised by a group of ladies to whom we offer our grateful thanks, and many parties were seen to be enjoying what would be a welcome meal and cuppa. Later, of course, the tea makers suffered rather severe competition by the opening of the keg under the supervision of Ken 2KS, one of our noteworthy dispensers of the golden fluid.

Many present had noticed a large truck arrive and paid much attention to the large area allotted to the disposals group who had for sale a large amount of disposals equipment, valves and crystals, etc.

Adjacent to this was the commercial display arranged by Ron 2ALR, of W.F.S. Ltd., who was showing the latest in Hallicrafters equipment, and who, incidentally, made available as prizes two co-axial relays and a broadband amplifier. Ron, we noticed, was kept very busy all day with many enquiries from the large crowd.

OUR THANKS

We are indebted to the following business houses who, by their support again this year, in making generous donations of prizes and technical literature to a value of nearly £200, have assisted your committee to make this 12th Annual Convention such an outstanding success.

Amalgamated Wireless Ltd.
Amalgamated Valve Co. Ltd.
Mullard-Australia Ltd.
Martin de Launay Ltd.
Philips Ltd. (Miniwatt Division).
Standard Telephones and Cables Ltd.
Channel Master Ltd.
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Kriesler Australia Ltd.
Morgan Crucible Ltd.
Tip Top Ties Ltd.
University Graham Instruments Ltd.
Union Carbide Australia Ltd.
Rola Company (Australia) Ltd.
W.F.S. Ltd. (Hallicrafters).
Ducon Condenser Co. Ltd.
R. H. Cunningham Ltd.
American Radio Relay League.

A further demonstration was arranged of s.s.b. gear by Leo 2AC, Stan 2EL and Harry 2AJZ, and also to be seen was some very nice home-brew u.h.f. equipment which was in operation during the early part of the day.

On such a Picnic Day, lunch is always in demand and many family groups were seen scattered around the grounds enjoying a good meal, many of the kiddies patronising the stall which was selling all the goodies the kiddies love.

While the 7 Mc. fox hunt was in progress Max 2MP was busy organising the many competitions, including a novel one of a constructional nature. Participants were supplied with a small chassis with sockets mounted and were supplied with wire, resistors and condensers and were instructed to construct a Pierce Oscillator in minimum time. A receiver was on hand to check the oscillators on conclusion.

The QSL Bureau and Secretary's tent was manned by the appropriate people, Frank 2QL and Bill 2EG, who report having done a large volume of business during the day.

A further event in the afternoon was the blindfold tx hunt, always popular and run as only the Blue Mountains Section can do. Our many thanks to Bill 2HZ and his team of willing helpers.

The 144 Mc. fox hunt was run next and a number of cars set out at high speed to endeavour to find the fox, Neville 2ZNM, and who was also the fox in the previous events, thus missing a lot of the Convention.

A disposals auction appeared to be the next on the programme and as usual was extremely well patronised by the crowd present.

All good things must per force come to an end, and finally all present were assembled, under poor weather conditions, to see the prize giving and the close of yet another Convention at Dural.

The many prizes were won by:—
Build the osc. contest: 1st, 2SW; 2nd, 2AWW; 3rd, 2XP.
Guess the audio freq.: 1st, 2EL; Cons., 2AQX.
Guess the value of capacitors: 1st, 2ZEX; Cons., 2AQX.
Guess the value of resistors: 1st, 2RX; Cons., 2EL.
Guess the frequency of L/C: 1st, L2235; Cons., 2EL.
Identify the object: 1st, 2EL; Cons., 2AQX.
Blindfold tx hunt: Men, 2AWW; Ladies, Mrs. West; Boys, Alan Williams; Girls, Kay Lewis.
Mobile scramble, h.f.: 1st, 2AAH; 2nd, 2FM; 3rd, 2ANR.
Mobile scramble, v.h.f.: 1st, 2ZXY; 2nd, 2ASZ; 3rd, 2ZAU.
Mobile rig efficiency, h.f.: 1st, 2AMA; 2nd, 2ACK; 3rd, 2FE.
Mobile rig efficiency, v.h.f.: 1st, 2ZPJ; 2nd, 2ZAU; 3rd, 2ZCF.
7 Mc. tx hunt: 1st, 2AAH; 2nd, 2SD.
144 Mc. tx hunt: 1st, 2ZAH, 2nd, 2RX; 3rd, 2ASZ.
Mobile rig assessment: 1st, 2AMA; 2nd, 2ACK; 3rd, 2AAH.
Mobile rig assessment, Z Calls: 1st, 2ZCF; 2nd, 2ZAU.
Grand slam prize: 2AAH.
Special prize for the fox: 2ZNM.
Lucky number: Men, Mike Hodgkis; Ladies, Mrs. Pearson (XYL 2ACQ).

Finally, to all those who have assisted the committee in any way however small, we do appreciate your help, and hope that you will again give a hand to the committee who will be organising the 13th Annual Convention—or may be you will be one of the committee. See you at the big "Do" of the year in 1963.

N.S.W. DIVISIONAL DINNER

For the first time for many years in N.S.W., a Divisional Dinner was organised by the 1962 Convention Committee under its chairman, Max 2MP, as the activity for the second day of the three-day Convention. The other members of this committee are Harold 2AAH, Ted 2ACD, Oak 2OO, Alan L2185, and Peter L2187.

The Dinner was held at "Ivanhoe," 49 William St., Hornsby, with an attendance of 60 members, who it appears thoroughly enjoyed an excellent repast with all the trimmings.

The M.C., Oak 2OO, following Dinner, introduced the Divisional President, Bill 2YB, who in turn welcomed the members assembled and urged the members, especially those who live within easy reach of Sydney, to give more support to Divisional activities in the future than they have done in the past. Bill further commented on the achievements of the current Council, which will in the next two months conclude its year's work, and stated furthermore, that he would not be seeking re-election as President at the coming election of officers.

The reply to the President was made by Bill 2AHV, Zone Officer of the South West Zone, who expressed his pleasure at attending such a function and being asked to represent the country membership.

The entertainment for the evening consisted of a forum on the merits and de-merits of the familiar means of communication—a.m., c.w., and s.s.b. The moderator for the forum was Oak 2OO who led the panel consisting of Leo 2AC and Stan 2EL for s.s.b.; Bill 2YB and Syd 2SG for c.w.; and lastly Vol 2VO and Max 2MP for a.m.

A most amusing and well staged discussion raged for nearly an hour, with the moderator, at times, at his wits end to control the forum which, on popular vote, was decided on a dead heat for all three modes of transmission. The participants are to be commended for their ingenuity in the production of the gimmicks used during the discussion and for the humorous manner in which the forum was conducted.

An open discussion was held, in which many questions, both sober and humorous, were put to the panel of experts.

The function closed at a late hour and we feel sure that all attending had enjoyed themselves to the full on a memorable evening.

Those present included 2YB, 2AHV and XYL, 2AAH, 2MP, 2ACD, 2ZTM, 2RU, 2SA, 2OR, 2AFT, 2SG, 2OO, L2185, L2187, 2CB, 2ZPJ, L2219, 2ASW, 2ZOO, L2233, 2ABO, 2AV1, 2APQ, 2EO, 2AGS, 2AMA, 2XT, 2FP, 2AQR, 2AAJ, 2AKJ, 2ZEX, ex-7HY, 2AIM, 2ZCK, 2AC, 2EL, 2PM, 2AAB, L2241, 2ALU, 2XS, 2AI, 2ON, John Treweller, 2ST, 2ZNM, Hal Barnes, Bob Wilson, 2PZ, 2AJF, Noel Harker, 2ZAK, 2YC, 2VO.

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

EARLY 144 Mc. CONTACT?

Editor "A.R.," Dear Sir,

The following information, found in "A.R." for August '48, p. 30, under the heading "144 Mc. Digest," may be of interest to those 144 Mc. operators at present active in the pursuit of the "rare-and-elusive"

In June '48, VK4FN heard VK2VW over a distance of 450 miles. The signal peaked S6 and was audible for about 16 mins. VK4FN was using a 522 Rx with a vertically polarised dipole 34 ft. high, whilst VK2VW used a 522 Tx with a horizontally polarised 4 element beam. A Call Book of that era gave the QTH of VK4FN as Brisbane and that of VK2VW as Sydney. I could not find any further reports that indicated a QSO had followed because of this hearing which was confirmed by VK-2VW incidentally

I found this report most interesting and would like to know if a QSO over this path was ever made on 144 Mc. Surely, in this day of s.s.b., 150 watts and large beams possible on the band it should be an easy contact. Maybe, the present-day 144 Mc. DX man is slipping?

—David Rankin, VK3QV.

VHF—THE PRESENT STATE OF THE ART

Editor "A.R.," Dear Sir,

I read with interest the letter in "A.R." Oct., "V h f.—The Present State of the Art." There is very little I can fault in this letter, which should be read by ALL Amateurs, and perhaps it will wake a few complacent ones. The only thing wrong is that the writer signed under a non-de-plume.

In November issue I was shocked to read a blistering letter from VK3ZCR/T, referring to this letter.

Low power is no affront to the chap the other end, after all 8-10 watts are only two S points down on one's running of the full 150 watts. With reference to disposals equipment, VK3ZCR/T has contradicted himself in two paragraphs. In one he says we have no excuse for not running 50 watts or so with the disposal market as it is, and then turns around and says a common easily converted piece of disposals gear should be banned from the bands.

Now he openly discriminates against low power stations. I hope this is not the general Amateur's attitude. Anyway, how can he tell whether they are low power, they may be high power with their beam in a null point. I am happy to work any Amateur whether he uses low power like myself, 30 watts, or high power, whether he is near or far in another paragraph with reference to using only 500 Kc of a 4-megacycle band, VK3ZCR/T states he does look for weak signals.

From VK3ZCR/T's letter in general I get the idea that he thinks that his ideas are the only ones that count. He contradicts himself several times in his letter. I think that he should read carefully the letter of "One Angry Young Man" and think before he writes.

—Rodney Champness, VK3ZCD.

Editor "A.R.," Dear Sir,

I have read and re-read Mr Rechner's letter (Nov "A.R.") and am still at a loss to understand its purpose or what he is trying to convey.

First he says he openly discriminates against low power and weak signals. So what?

Then a little further on advocates the use of only 500 Kc. when looking for weak signals. Why tune for them when you won't work them?

I am sure the Ballarat gang and that well known S.W. VK3 station have by now thrown their bodies over the gap.

I suggest F.E. approach the Frequency Allocations Committee and that unwanted 3,500 Kc. the thinking operator does not want be traded for the 100 Kc. we lost in 3.5 Mc. band.

I would suggest that a small portion of a v.h.f. band be set aside for the use of VK-5ZCR/T and others of his ilk (if there are any!) and that Mr. Abernethy listens to them.

The only good thing coming from Mr. Rechner's letter is that he has proved himself to be what many have thought him to be.

—G. F. Lucas, VK5LL.

Editor "A.R.," Dear Sir,

Al VK3ZCR/T has raised a couple of matters which have occupied my mind for some time. These concern disposition of stations in the 144 Mc. band frequencywise—and the difficulty of finding weak DX stations when they are scattered over a megacycle or so. My experience has been that if a station is strong enough to read on a.m. it can be detected by a quick scan over the band—provided the b.f.o. is switched on. However, stations only readable on c.w., i.e. S3 and less, require more searching for, particularly if there is QSB. The really weak DX or super DX usually out beyond 150 miles is the main problem.

There are two main aspects of the problem. The first is that during DX sessions here in Melbourne, and I suppose most capital cities, there are a lot of stations active—although the DX may hear only one or two. If the DX is anywhere near a community crystal, and most of them are, the chances of everybody being happy are negligible. The Melbourne stations on that crystal or near it, and there are probably half a dozen, aren't happy at causing QRM to the DX. And the DX won't get many contacts unless a few Melbourne stations stay off.

Moral: Stay away from community crystals—they may be cheaper, but you are buying trouble.

The second aspect is that of finding and identifying a weak signal in 1,000 kc. of spectrum space, with a rx using 200 cycle b.p. filter—this is the proverbial needle in the haystack.

The obvious solution is to divide the 1,000 Kc. by 10. If we have to tune from 144.000 to 144.100, the job is greatly simplified.

Hence I put forward the suggestion that this portion 144.000 to 144.100 Mc. be made a c.w.-weak DX band by gentlemen's agreement. Local DX (up to 150 miles) and ragchews to be congregated above 144.1 Mc.

One snag of course is that Z calls are not permitted to use c.w.—their a.m. would take up more space.

All the aids to weak signal working, large long yagi arrays, parametric amplifiers, highly selective rx's place restrictions on the amount of band which can be effectively used. Hence if we are to make progress in this field we must concentrate the DX in a narrow portion of the band.

Any scheme to put the DX up beyond 145 Mc. or even 146 Mc., as I have heard mooted recently, is a sheer waste of time. I feel that with a little co-operation and patience my scheme could be made to work to the advantage of all.

In conclusion, may I say that I cannot understand why Z calls are not permitted to use c.w. C.w. has an n.f. advantage of 10 db. over a.m. (VK3BG notwithstanding), which, when signals are only S1 or S2, is really something, and besides, it takes up far less spectrum space.

—I. F. Berwick, VK3ALZ.

THE SPACE AGE

Editor "A.R.," Dear Sir,

I have read with interest the new frequency allocations—all told I feel we have not fared too badly, thanks to the many people who have devoted time and energy on our behalf. There is one matter, however, I should like to raise, as we all know this is fast becoming the space age. Manned orbital flight has already been achieved. Manned lunar probes are likely within five years and possibly inter planetary flight within the decade. Radio Amateurs can expect to be working interplanetary DX within a couple of decades. In addition much pioneering of lunar reflection is already being done by Amateurs overseas. The only frequencies suitable for communication beyond the ionosphere are u.h.f. and microwaves.

I notice that whilst we have a number of u.h.f. and microwave assignments, in every case the Amateur is placed on a secondary basis to radio location services. I feel that Amateurs should press for an exclusive allocation. As things stand at the moment the most suitable band appears to be 1,296 Mc. As stabilised transmission and reception techniques are the only satisfactory ones, it would not require an allocation of more than a couple of megacycles, provided it was in exact harmonic relationship of the v.h.f. band 144-148 Mc., i.e. 1,296-1,300 Mc. would be suitable. Surely this would not be too much to ask.

—I. F. Berwick, VK3ALZ.

REMEMBRANCE DAY CONTEST

Editor "A.R.," Dear Sir,

My recent letter to "A.R." (Sept. '61) has brought forward a number of comments, most of which have been made "on the air" and more or less in agreement with my own remarks, which were made in all sincerity and not in any way intended to cause amusement. I had intended to let the matter rest for a time, but in the light of more recent comment, I realise that the conditions on the Amateur frequencies during the R.D. Contest, and possibly other events of a like nature, are symptomatic of an even more serious problem. In an attempt to explain this problem, once more I am compelled to take up my pen.

It is agreed, apparently, that there did exist on August 12 and 13, '61, a howling, seething mass of signals. This was to be expected, of course, in view of the great number of Amateurs operating at the time. My complaint was not concerned with the number of stations on the bands, but with the "rotten QRM" deliberately caused by a minority group, reflecting on all Amateur Operators.

On close reading of the letter submitted by Mr. Groves ("A.R." Dec. '61), it occurs to me that the said gentleman shares my own sentiments on the subject. However, in defence of people who may not be so fortunate as to have others agree with their criticisms I now make these points which, if taken to heart, could help in solving our various differences.

For centuries the younger generations have faced the task, in every field of human endeavour, of repairing the damage caused by their forbears through ignorance, misconception, and apathy.

Many of the older and supposedly more mature members of our communities have always been, and will continue to be, either incensed or amused by the idea that the youngsters of the time could possibly improve what has already been achieved. To these I say, "Age alone does not confer Wisdom". Instead of inordinate pride in the past and hope for the continuance of the status quo, we are in need of a coldly-calculating mind, a passion for self-analysis, a dissatisfaction with existing conditions, and the realisation that our own ecorts towards improvement will be thwarted, in part if not in the whole, by our own insufficiency and by the apathy and limited foresight of our predecessors.

By all means let us be thankful for the benefits which are ours, but let us also be thankful that, stimulated by criticism, we are able to improve to the best of our capabilities the conditions which are not beneficial to all.

Let us move into 1962 with a critical eye and an unprejudiced mind, and improve the standing of Amateur Radio in the eye of others by our gentlemanly behaviour at all times.

—Morton P Davis, VK3ANG.

THAT S.W.R.

Editor "A.R.," Dear Sir,

The August 1961 issue of "A.R." contained a reprint of the article, "How Important is the S.W.R." by "Wun Gee Kew". I regret the reprint as well as the original publication of this article (of which I was previously unaware) since it contains the completely incorrect idea that reflected power is necessarily lost.

I would take the trouble to explain why reflected power is not lost except that I have already explained it as carefully as I can in an article, "Match, or Not to Match," contained in the Sept. 1958 issue of "QST". Therefore I refer you to it.

On the other hand, I do agree with "Wun Gee Kew's" main point that Amateurs frequently expend unjustified effort in lowering the S.W.R. However, this effort is even less justified than even "Wun Gee Kew" realised, as the reader of my article can see.

If you can spare the space, I would appreciate it very much if you would print my new QTH in "A.R." as I have made many friends in VK-land, both over the air and in person during my six-month stay in Sydney in 1956. This QTH (740 Willowbrook Road, Boulder, Colorado) was one that I acquired in July of this year.

—Yardley Beers, W0EXS, ex-W2AWH
(Member of N.S.W. Div. of W.I.A.)

RECIPROCAL LICENSING

Editor "A.R.," Dear Sir,

I have been here for nearly a year now, but I haven't been involved much in Amateur Radio, largely because of lack of reciprocal licensing arrangements.

One thing that has impressed me is the apathy of most of the Amateurs I have met towards the subject of reciprocal licensing. I know that there is an energetic group in W6 working towards this end, but over here I have seen no sign of it. Coming from the midst of our battles on frequency allocations, where so many of us were actively involved, this apathy comes as a bit of a shock.

My sample is not large. I have asked a dozen or perhaps twenty Amateurs whether they have written to their Senators in support of Senator Goldwater's bill. So far I haven't found one who has done this. Some say they intend to do so later, in a half hearted sort of way, which leaves me in little doubt about their real intentions. Others haven't heard of Senator Goldwater's bill. Some don't even realise that foreign Amateurs cannot operate Amateur Stations in the U.S.A.

(Continued on Page 17)

VHF

50 – 144 – 288 – 576 – 1296 Mc.

Sub Editor: BILL ROPER, VK3ARZ,
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

The large amount of recent activity on the v.h.f. bands has once again brought to light the very poor operating procedure displayed by far too many Amateurs. The main offenders appear to be those using v.f.o. and v.x.o. control. Amateurs who use this type of equipment should always check on their own frequency before transmitting, to make certain the channel is clear.

This of course also applies to crystal controlled stations. No frequency is yours exclusively

It is accepted practice to v.f.o. on to the other station's frequency if you intend to ragchew, but when calling a DX station you should not block his frequency but call him 10 Kc. higher or lower.

DX stations should make a point of not replying to a station on their own frequency unless, of course, it can be established that the offender is crystal controlled.

Also, when using so-called tailending procedure, always clear the frequency as soon as you have finished your contact.

One of the most infuriating offenders is the DX station who tunes the band in oscillating jerks, thereby never giving any indication whereabouts he is going to listen. Always tune steadily from one end of the USED part of the band to the other before reversing direction.

V.f.o. control is a step in the right direction, but improperly and carelessly used, it can be extremely aggravating and troublesome.

I am more than a little disappointed that there are no notes from Victoria and South Australia this month. I trust that this will not happen again.

Let me repeat once again, that all news should be posted to the scribe in your State to reach him no later than the second day of the month preceding publication. Scribes should post their notes to reach me no later than the seventh day of the preceding month.—3ARZ.

PROJECT OSCAR

Those who took the trouble to submit logs on Oscar I. to the organisers of the project will by now be in receipt of regularly airmailed newsletters. For the benefit of others, information to date is that it is hoped to launch Oscar II. some time in April. Greater emphasis is to be placed on measurement of Doppler shift, but it is stated that high gain beams and antenna tracking systems will be unnecessary. It is possible that two or three information channels may be used and the original c.w. keying will be retained. For some of the measurements two stations should work as a team.

Measurement of Doppler shift demands considerable accuracy if the results are to be of any real use. A technique is described in "QST" for July '61 which should give some idea of the requirements. However, later, simplified (and tried) techniques are to be described in "QST" for March 1962. An effort to obtain this issue as soon as possible will be well worth while, and perhaps a start now on the construction of a stable crystal reference oscillator tunable, say, from 144.95 to 145.00 would be a step in the right direction.

It is noted that in the Feb. 4 newsletter, only two VK stations are listed as having submitted logs out of a total of 200 or so stations listed, 60 of them outside the U.S. Undoubtedly there are quite a few VK logs yet to be analysed and acknowledged, but it is a pity that some of the stations mentioned in last month's v.h.f. notes as having heard Oscar I. made no effort to track it or to submit logs, on matter how sketchy they may have been. Every little bit of information is of some value, so how about showing that VK Ham Radio is not technically stagnant and really making an effort to put us on the Oscar II. map? The support we give these early projects will determine how soon we can participate in things like v.h.f. DX by satellite relay—the future is only just beginning! 3ABP

NEW SOUTH WALES

50 Mc. Activity was very high over the Xmas and New Year period, and until the completion of the Ross Hull Contest. Since then nothing! Have conditions really folded up, or are we just sitting back waiting for next summer? You can't work DX unless you get on the band.

During this brief period of activity the band was open to all States except VK8 on most days. Most consistent were VK3s. The ZLs were there at good strength on most days, the Lv sound channel on 50.75 Mc. from Auckland being a good indication of band openings across the Tasman.

The rules of the Ross Hull Contest came in for some discussion at the February meeting of the Group.

144 Mc.: A welcome newcomer to v.h.f. is Muriel 2AIA, well known to the old men of 40 mx. As reported last month, Bob 2ASZ and ZL3AQ had a two-way QSO on 144 Mc. on 31st Dec. Here are further details. Bob was portable on Mt. McAllister, approx. 20 miles N.W. of Goulburn, preparing to take part in the V.h.f. Mid-summer Field Day, when he heard ZL3AQ at 1235 hrs. E.S.T. Contact was established at 1310 hours and maintained till 1325 hrs. He was still audible till 1340 hrs. when he faded out. Bob reported the signals at 5 and 9 and received 5 and 8. His Tx using a QQE03/12 was running 13 watts and feeding a 3 over 3 beam. Rx was an SX100 and a 4-tube converter

ZL3AQ is located in Ashburton and the airline distance is 1355 miles.

It is interesting to note that the only other ZL contact on 144 Mc., made by Alan Llewellyn a decade ago, was also with a station in Ashburton. That town must have something.

At Xmas, 2ZPJ went south and scaled Mt. Kosciusko where he operated portable. He contacted about 10 VK2 stations and several VK3s. A number of Sydney stations were contacted, also Newcastle.

General: The Feb. meeting was very well attended, over 40 in attendance and standing room was scarce. We urgently need the new meeting hall which is due to be officially opened on 17th March. The lecturer for the evening was Alan 2DN who spoke about 10,000 Mc. equipment. Alan gave details on converting available disposals gear, in particular the RT-181/APG-30 radar unit recently available through disposals. Alan had his gear for display, also that of Len 2SD. Bob 2ASZ also had his gear along. With some 30 of these units in the hands of VK2 Amateurs, and 4 ft. parabolic dishes available at a very low price, 10,000 Mc. should become populated. With the gear available, 10,000 Mc. is no more complex than 144 Mc.

If you would like to hear a better signal from 2WI, then contact Tim 2ZTM and he will find a job for you one Saturday or Sunday at Dural. There is much work to be done on the equipment there and any help will be appreciated.—2ZDP

QUEENSLAND

Six metre DX has been holding up fairly well but started the gradual slow-down in the middle of January. ZLs were worked on 30th and 31st Dec., also on the 1st and 11th Jan. Openings to VK3, 5, and 7, also to VK9 occurred on 30th and 31st Dec. to VK3 and 7 on 1st Jan. Over the period 10th to 14th Jan. opening occurred to VK2, 3, 4, 5, 6, 7, 8 and 9. VK2 on 30/1/62, VK3 and 5 on 31/1/62, and VK5 on 1/2/62.

On 6 mx there are regular skeds being carried out to work maximum distances on ground wave and results will soon be forthcoming.

New station on 6 mx is Graham 4ZGN with 5 watts to a modified 522, a dipole antenna and a superregen. rx. He is, however, making a converter to feed into a b.c. set. Welcome to the band, Graham. Another welcome newcomer to this part of VK4 is Merv 4ZGM, from Alice Springs, who is now going to make his home in the Sunshine State.

On the 2 mx band things are starting to liven up in southern VK4. Dane 4ZAX heard VK3s ragchewing on 2 mx on the night of 11th Jan., but was unable to break in. Ron 4ZBZ, who is now mobile on 2 mx, worked 2ZLP at a range of 270 miles. Ron's small car looks very cute with a 10 el. yagi on top of it.

February's hidden tx hunt was organised by Alan 4ZBF and Malcolm 4ZEL, who hid it on top of an easily visible hill, the trouble being how to find a way up there. The tx was eventually found by Dane 4ZAX.

The V.h.f. Group meeting for the month took place at the QTH of Malcolm 4ZEL and the usual things were discussed. No decisions were reached and an excellent supper was served. —4ZBT.

WESTERN AUSTRALIA

The Ross Hull Contest has been and gone and we find that most of the activity which was on during the month has slipped away and those number-hunting fiends are not waiting to pounce on anyone who puts a signal on the air.

There was quite a bedlam on 50 Mc. on the morning when VK2TR/8 broke through and he was able to work a very large number of VK6s, giving them that much chased-after VK8 contact.

We have been carrying out a lot of checks with David 6AU, but as yet have not been able to make the grade. Kevin 6ZCB and Lance 6ZBK were portable at Cape Naturaliste during the last two days of the Ross Hull Contest and were able to work back into Perth on 6 and 2 mx with 5/9 sigs. They also worked VK-2TR/8 whilst portable. Rolo 6BO and Frank 6CC went touring the South West during the month and Rolo had 6 and 2 mx gear with him and worked back into Perth from down Donnybrook way. He also worked Kevin and Lance at Cape Naturaliste.

A new interest has been kindled with the boys at Bunbury and Ian 6ZAL and Ted 6JG are active once again. Skeds are carried out on Sundays at 10 a.m. in the morning on 6 mx, so keep a look out for these boys. Brian 6VV in Geraldton has been coming through quite often on 6 mx very often a good phone copy, but sometimes only c.w.

Two metres has still got quite a number of stations operating and the skeds between Rolo 6BO and Wally 6WG are carried out during the week-ends.

Rod 6ZDS and Wally 6ZAA have now xtal locked gear operating on 576 Mc. and this seems to be performing quite well, however the air from the vacuum cleaner is about 100 degrees before being blown on to the final tube!

Next meeting will be on 26th March and will be held in D.C.A. Amenities Room in Guildford Road, Mt. Lawley. Everyone welcomed. In closing, would like to welcome Pat 6PH, John 6ZDX and Alan 6MO to 6 mx, and any others who may have escaped my notice. —6RY.

TASMANIA

Early Jan. provided some reasonable 6 mx DX—although not as consistent as the previous month. VK2, 3, 4 and 5 on Jan. 1, 2, 4, 10 and 11, chiefly during daylight hours. The 12th and 13th much better, Melbourne stations were contacted from southern VK7 around 1230 hrs. on 13th. 15th and 17th rather patchy.

During the morning of 18th, VK2, 3 (Melb.), 4, 5 and 6 were contacted—the best opening to VK6 for the season. A VK9 was heard as was a VS6 weather (?) station. On 21st, 7LZ and 7BQ worked 3AU on c.w.

Only other openings worth mentioning were the 24th—when a startled "voice," 7ZAV, worked a lone ZL4—and the 26th when 3AU was contacted midst VK2s and 4s.

Two mx has been providing plenty of contacts between Launceston area and VK3. 7LZ worked 13 VK3s on 14th—mainly in the Melbourne-Geelong area; following night also open to VK3. Other 7s active were 7BQ, 7PF and 7DK. Open again on 23rd. To this time nothing had been heard of East Victorian stations and none of these openings noticed by Hobart stations—but we're still hoping.

An effort was made to operate from Mt. Wellington (near Hobart) for the Jan. VK3 Field Day. The weather however was against us, high winds and extremely icy conditions made it impossible to raise a mast sufficiently high and the warmth of the t.v. control room was much more inviting than the cold interior of the vehicle.

Believe 7LZ and 7PF were considering operating from Mt. Barrow (5,200 ft.) near Launceston for the Feb. Field Day—hope this proved possible.—7ZAO.

PAPUA

Activity on 6 mx is quite high here, with myself (9AU), Murray 9CK, Gordon 9NW (operating mobile from all the choice high spots around town) and Paul 9ZBV. I have only recently returned from a year's stay in VK2 and was operating during the latter part of the Ross Hull Contest as VK2TR/9, however have now got the old call back once again.

(Continued on Page 13)

SIDEBAND

Phasing, Xtal Filters, Balanced Mod., Linear Amps., Vox

Sub Editor: BUD POUNSETT, VK2AQJ,
6 Alice Street, Queanbeyan, N.S.W.
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

A DIFFERENT KC4

KC4USP sounds very much as though it is another of the American Antarctic stations which have been so plentiful this summer, but this is not so. KC4USP is located on the U.S.S. Vance, stationed 1,000 miles south of New Zealand on the air route between Christchurch and McMurdo Sound. The prime duty of this ship is to act as a navigational beacon and communications relay station for aircraft flying the long hazardous route to and from the Antarctic. In addition to this, the U.S.S. Vance reports the weather conditions and carries out oceanographic surveys. The ship is crammed with radar and communication facilities and it is interesting to note that voice communication to and from the aircraft on h.f. employs single sideband. In addition, s.s.b. is used on voice circuits to McMurdo Sound and New Zealand. R.t.t.y. and c.w. also is used to pass traffic between the two terminals while c.w. is employed for the Hawaii-U.S.S. Vance circuit. Who said c.w. was out-moded?

Syd., the KC4USP operator, is the chief radioman on the ship and has had 14 years in the U.S. Navy in various parts of the world. If you are at all interested in air or marine communications you are in for a very interesting contact if you look for Syd at the high end of twenty.

AN R.F. PHASE SHIFT NETWORK

From Mac VK3AZM there comes a very simple circuit for obtaining the necessary 90 degree phase shift for your new or old phasing s.s.b. generator. This is a network which is extremely simple and you are assured of excellent results without having to use expensive test equipment to accurately measure fixed capacitors.

Fig. 1 shows the method of coupling the output of the crystal oscillator to the network. This allows the oscillator to be placed at any convenient place away from the balanced modulator output coil which greatly assists in obtaining better carrier suppression figures.

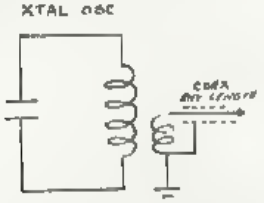

Fig. 1.—Coupling from Xtal Oscillator.

The r.f. phase shift network is shown in Fig. 2. R1 and R2 equal the value of impedance of the co-axial cable used. If 50 ohm co-ax is used, 50 or 47 ohm 1 watt 5% carbon resistors will be required. C1 and C2 can be 5% mica capacitors and the required value can be calculated as follows:—

C equals 1,000,000 divided by $2\pi FR$

where C is in pF., R is in ohms, F is in megacycles.

Taking a practical example for a 9 Mc. phase shift network,

C equals 1,000,000 divided by (2 x 3.14 x 9 x 50)

which is approximately 350 pF. If you wish you can save yourself the problem of the maths by looking at the Reactance-Frequency Chart in the A.R.R.L. Handbook or Radio Handbook and read off the capacitance that has a reactance of 50 ohms at 9 Mc., this will give the same result.

C1 and C2 can then be 350 pF silver mica 5% (or less) capacitors but for those who wish to obtain the ultimate in performance from this network, C1 can be made up of a 270 pF. capacitor in parallel with a 3-30 pF trimmer. The rest is made up with stray capacitance. The trimmer is then used to obtain optimum r.f. phase shift and hence best sideband suppression.

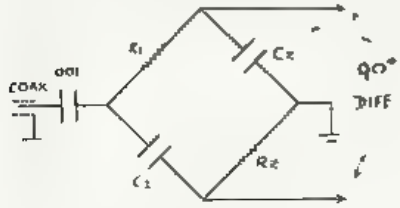

Fig. 2.—R.F Phase Shift Network.

THE LAW IN CANADA

The January 1962 "QST" has some interesting information on bandwidth and power input measurement regulations in Canada where the Department of Transport is the licensing authority. It is also worth noting that except for the legal limit figure, the U.S. F.C.C. definition is the same. Quoting from the Dept. of Trade Radio Regulations:—

"Section 44 of the General Radio Regulations, Part II., contains a tabulation of the frequency bands and types of emission which may be used by stations in the Amateur Experimental Service. It should be noted that the emission designator A3 is construed to include all forms of amplitude modulated radiotelephone emissions, including double sideband emission, e.g., full carrier (A3H), reduced carrier (A3A), suppressed carrier (A3J), also independent sideband (A3B). With regard to bandwidth, Amateur Stations using amplitude modulated double sideband (or independent sideband) emissions are permitted a bandwidth of 8,000 cycles (plus-minus 3,000 cycles), whereas with single sideband the equivalent bandwidth is only 3,000 cycles.

"Section 46 of the General Radio Regulations, Part II., provides that the d.c. power input to the plate circuit of the final amplifier stage shall not exceed 750 watts (unless further restricted by Section 45) and Section 60 thereof requires that meters of 'standard accuracy' shall be permanently installed where the d.c. power input of an Amateur transmitter exceeds 400 watts. Noting that these restrictions relate to the basic types of emission designated in Section 44, it has been decided to interpret the limitation of Section 46 with respect to single sideband suppressed carrier emissions in the following manner

"The d.c. power input to the anode circuit of the radio frequency stage supplying power to the antenna system of a single sideband, suppressed carrier transmitter, as indicated by the plate voltmeter and plate milliammeter, shall not exceed 750 watts on voice peaks, provided the plate meters used have a time constant not in excess of approximately 0.25 second (readily obtainable) and the linearity of the transmitters has been adjusted to prevent the generation of excessive sidebands."

WHITHER

Who is doing what? Well, here in the Canberra district 1SB has left the pile-ups on 20 for the quiet pastures of 40 metres. Having a rare prefix is not all beer and skittles and Stan finds the 7 Mc. band very relaxing after being chased all over the top of 20. Harold 1GU still continues to battle the static of summer 80 metres and talk to a few of his old mates. Peter 1JE is almost there with his phasing exciter, and his near-neighbour, Les 1PI, is getting the rx side of sideband tidied up before beginning work on a W2EWL exciter—a very wise move.

At 2AQJ a band-switched final is nearing completion with a pair of grounded grid 811s as amplifiers. Not far from Yass, 2XP at Gunning, has been working the DX on 20 mx. Bob had some troubles with his home-brew tx, but after getting lots of help from various of the gang, has things going very nicely. Sydney has a visitor, in the person of Johnny 4DD, of tropical Townsville. He is staying with 2ADC and brought along his recently finished copy of a 7551. Johnny is very pleased with his efforts and we hope to be able to give you the details at a later date.

Reg Brook, VK1AI, at the controls of his mobile sideband rig.

VHF NOTES

(Continued from Page 12)

Equipment in use here as follows: 9CK, 15w. to 2E26, 4 el. yagi and xtal converter. 9NW, about 3w. to 6360, 4 el. yagi and xtal converter. 9AU, 20w. to 6146, 4 el. yagi and xtal converter; 9ZBV, 2w. to 6AQ5, indoor dipole and xtal converter. Frequencies: 9AU 50.06, 9CK just above 50.1, 9NW 50.5, and 9ZBV with v.f.o. around 50.06-50.1 Mc.

First opening after my return here was on 31/12/61, opening to VK4 from 1400 to 1730 (all times E.A.S.T.). On 4th Jan., open around 1800 to VK3. 12th Jan. open to VK2 (Inverell), VK4 1745-1915. 13th Jan. open to VK2 and VK4 from 1415-1730. Then the big day—14th Jan.—opened at 1200 to VK4, at 1227 VK5 started to roll in (I had 16 VK5 QSOs), 1330 8AU was in, and band remained open to VK4 right through to 1900 hrs. Next opening was on 16th Jan. to VK2 and VK4 1600-1845. On 18th Jan. open to VK4 at 1740, VK3 at 1800, and VK5 1830-1930. 20th Jan. open to VK4 1630-1800. 21st Jan. 4ZAZ in at 0640, then nothing till 1600 when 8AU's auto keyer heard at 89, 8AV wkd. at 1615. 25th Jan. 7ZAO in from 1700, wkd. at 1743, then open to VK4 to 1800.

Activity on 2 mx is restricted to myself with 15w to 6360 on 144.80 Mc., and 9ZBV on 144.1 Mc. with 150 milliwatts transistorised tx and his indoor antenna. I now have a 5 el. yagi up on 144 and it is hopefully pointed to VK4. There are tentative plans for an effort to work Dane 4ZAX when he comes to Cairns around June. We hope to have 100w. and two stacked long yagis at an excellent QTH several hundred feet on a cliff overlooking the sea to the south. 6CW4 nuvistors are anticipated to be used in a hot converter and we have hopes of being able to make QSO with VK4. Who knows, it may even be possible to work much further south than we at present anticipate. I am willing to sked anyone as of now who is interested in a possible 144 Mc. QSO, but the equipment to be used later in the year will be far superior to present gear.

Am listening for ZLs on 51.0 and up and if I hear any and cannot raise from 50.06, I will QSY to their band as I have a rock for 51.4 Mc.—9AU.

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Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6826—7 a.m.-4 p.m.)
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ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Conditions this month have been poor; the 7 and 14 Mc. bands have shown some life, at times, but the signals have been weak and any worthwhile DX very scarce. Both these bands were best during the early morning-night hours, but unreliable. The 21 Mc. band has been a disappointment at this QTH this month, very little of any consequence showed up. The long path circuits on these bands, which were a daily occurrence a few years ago, now almost seem to be a thing of the past. When they do appear now, the signals are weak and short-lived. All this, coupled with high levels of QRN, has not made for good listening and DX.

NOTES AND NEWS

PA0PN is looking for VKs on 3.5 Mc., particularly around 2000 hrs. G.M.T. He has a good signal here and I think it should be possible to work him. YU1OB and other Europeans are also looking for VKs on this band—mode, c.w.

Ron VS4RS is quite active on 21 Mc. c.w., from Sibu, Sarawak. He is a new arrival there and is getting some QSL cards printed. Robin VS4RM can be worked of an evening on 14 Mc. c.w.; he QSLs via G.P.O. Miri, Sarawak.

The new prefix UW0 is used by at least one station on Sakhalin Is. (UW0FC)

Mike YJ1MA is putting in a terrific signal on 14 Mc. c.w. One afternoon I heard him work at least five hours non-stop, at the rate of about one station every two minutes. He QSLs via W1HGT

A few good South Americans, HC and TG are active on 14 Mc. s.s.b. Carlos HC1FG QSLs via Box 2790, Quito; Gus TG9AL, via W3CTN, c.w. operator Don HC1AGI, QSLs via U.S. Embassy Quito

Ed DU1OR must be on a few kw by the sound of his 20 mx f.b. signal. Joe DU1VQ has been active also, over the last month on s.s.b., but says he finds reception difficult due to ignition noises. His QTH is in the centre of Manilla City.

Stuart ZK1BO on Rarotonga has provided a few of the locals with a ZK1 c.w. QSO on 20 mx. I wonder if his QSL is as "bare" as is Trevor's (ZK1AR ?

KH6EDY, Kure Is., and a fairly recent "new" country, is active on 14 Mc. s.s.b. There are at least three operators. 3kl QSLs via W8QK, as does Bob.

An increasing number of Russian Republics are coming in on s.s.b. At least one of them, Zaly, UL7JA, offers to QSL direct to P.O. Box 1, Leninogorsk, Kazakh.

John KJ6BV is active from Johnston Is. and works into the other Pacific Is. and VK land. QSL via U.S.C.G. Loran Transmitting Station, Johnston Is. Ed W6YCW/KJ6 is on the other end of the island, and within a few hours of his arrival there (13th Jan.) found some Collins gear in the shack and got it going. He was using it barefoot and still putting in a S9 to 9 signal into Melbourne. This is a return trip to the island for Ed, who was the first Ham to use s.s.b. on the island a few years ago.

Zone 23 station, JT1KAA, is active a few nights of the week around about 14.080 in the late evenings. Needless to say, Tuul is in great demand, but sooner or later, he'll come back to you.

A few Cyprus stations are on about 21.080 Mc. almost regularly at 7 p.m. E.A.S.T. Roy ZC4TX at Episkopi QSLs via P.O. Box 218, Limassol.

In addition to the increased activity of East Caroline stations on both c.w. and s.s.b., Dick KC6AQ on Koror, West Carolines (and a separate country), may also be worked. He QSLs direct.

Bob KB6BR, on Canton Is., in the American Phoenix Group, can be worked on 14 Mc. s.s.b., especially in the early evening. QSL via Box 36, U.S.P.O., 06/50,000, Canton Is., Phoenix Group, South Pacific.

ACTIVITIES

This month I have received mail and DX reports from all States (VK3 excepted). This is encouraging and makes interesting reading and helps to assess the overall picture regarding conditions.

Frank VK3QL has not been very active this past few weeks but lists the following. 3.5 Mc. wkd.- Ws. 7 Mc. 9M2CR, KR6CR, VQ4HE, HB9OE, 5P7HU, and other Europeans. 14 Mc. FW8K, FC8B/FC. QSLs recd.: OD5CT, UA2KB, KL4A, LX2XG, HP1IE, VR4CV, etc.

Ken VK3TL worked about 50 countries during the last month. He says the band has been open to Europe, but generally there was a lot of QRN on most bands. His list is, 14 Mc. c.w. wkd.; BV1USA, DM2UPN, DU1OR, EP2AP, FB8G, G3KMO, HB9KO, HC1AGI, HM1AP, HM4AQ, HS1X, HS2MS, JT1KAA, KC6BD, KV4AA, LA7RF/MM, LU2EN, OH1NK, OH3TQ, OH5RH, OZ4H, SM3CPM, SM5CCE, SM7BBY, UA1KBR, UA3RM, UA3TY, UA4HC, UA4IF, UA4NM, UA0EK, UA0EW, UA0KFG, UA0KUA, UB5CG, UB5JX UB5KAG UB5KED UB5ZV, UF6AU UH8KAA UW0FC VK3GW VR1B, VR1AB VS4RM VS5GS VS6EM VS6EP VU-3GD, VU2MD, YJ1MA ZK1BO 4S7NE 9M2UF 14 Mc phone wkd CE1RC DU1VQ G3PO, KC6AQ (West Carolines) KC6BH, KH6EDY (Kure Is.), KJ6BV, W6YCW/KJ6, KM6CG, KX-6AM, KX6BQ, KX6BU, PJ2AA, TG9AL, UL7JA, UW3UF VK0TC VR1B VR2BJ VS6EK XW-8AB 21 Mc c.w. wkd. DL3ZI DL7GX GI3BB, HB9CV OH1P1 OZ7UU SM3OT SP9HT UA-3CC VS4RS. ZC4TX QSLs recd BV1USA, CO7AH DL3IU FF8KL, HB9VL, KC6AQ (W Carolines), KV4AA KX6CG LA6CF MM 5P-6AAT, 5P8OM, TI2WA, VQ8AM/MM, XE1AB, XZ2NS, YO2KAC, ZL5AI, 4S7GV, 9M2MM. (Thanks Ken for your notes, they were very helpful.)

Geoff VK3ZMS reports that there is little DX and conditions are poor, but managed to log the following: 14 Mc. c.w.: VS5RM, ZL-3CK (New Zealand Antarctica). 14 Mc. s.s.b.: DU1AR, DU1TOM, KC6BD, KH6AHZ, KH6DJU KR6MU, VS6EQ, XW8AL, XW8AR, 9M2CP, also Ws and K. 14 Mc. s.s.b.: DL1VX, DL3JJ, EP2AR, G3PO, HS3OSQ, JAs KA2JL KC4AAD, KC4USS, KC4USV, LA3DA, KG4USP, KH6DZR, KR6DZ, KR8GF, KR8NZ, UA1KBW, UW3UF, VR1B, VS6EK, Ws and K. 21 Mc. a.m.: WB8HM, W8JRY. 21 Mc. s.s.b.: K7MZV, KH6AHQ, KM6VJ

Mal VK4DO also reports conditions poor and signals weak at most times. He contacted the following. 14 Mc. c.w. wkd.: W, K, AP8CP, DL3JJ, DU1OR, FO8AC, FK8AB, RC8CN, JZ-0BM KC6BD LA7RF MM OH2BZ OH3TQ, OH3CU OK1KAG SM5BIC SM5CCE SP9KJ, UA0KFG UA3KAH UA3TY UA4IF UA4KHW UA9KOA UL7HB UM8KAA VS6EC VU2WM, VR4CV ZC4TX 14 Mc c.w hrd W K JA, KA KH6 CE3CB DL1EE DJ5IM ET2AZ HA-5KFR HS1X HZ1AB IH9BE KZ5TD LU2HL, LZ1KAD OZ7HS PA0BL UA0KKD UA4KFR, UA4HW UA3AT UA9AA UA9KOG UA9WM UB5KCN UB5KSR UC2KAA UH8KAA UI-8AZ UI8KBR UL7KKD UL7KNG UL7NB, UO5PX UP1KF UR2KAN YK1AK YO4KCA, 4S7EC, 4S7NE, 4X4DC, 9M2UF. 14 Mc. phone wkd. JA, FK8AB, VR4CB. 14 Mc. phone hrd.: DU1AS, DU1EN, YV5AWK, 9M2AD, 9M3CP, 9M8GV 21 Mc c.w wkd JA, 4S7NE, VS4RS, VS6EM ZC4TX 21 Mc c.w hrd EP2BK, UA4AR 21 Mc phone wkd JA 21 Mc phone hrd.: EP2BE EP2BK

Al VK4SS. 7 Mc. c.w. wkd.: 5A3BC HS1X, [illegible]FN UD6BE, UC2CS, EP2BH, 9M2FS, 9M-2FK, KX6AJ, HM1AP, HM9A, LZ1KCM, PA-0PN, FA9VN, YO9CN, UI8AV, UI8KAD, UL7CD, 9H2HD. VQ4HE, UA9CC UL5PK VS6AAC, UJ8AM VS6EC VS1KV, ZE1AU G3CEG, G8DQ, and other Europeans. All the above were wkd. between the hours of 1700-2000 G.M.T.

George VK8RX wkd. on 14 Mc. c.w.: 5H3GC 1440z, 5H3HZ 1538z, ZP8AY 0818z, ZE7JV 1238z, MP4MAH 1238z, LZ1KPZ 1518z, AP8CP 1300z, UI1DAW, LU5ABL 1020-1050z, 4X4JU, 4X4FA, UA2AB 1210z, KV4CI 1133z, KG6ALC 1104z, PA0ZL 1204z, ON4AS 1253z, and many others in a mixed lot of JA, UA, UB, UI, KA, 9M. (Congrats. on R-8-K Award, OM.)

Mal VK6SM says he has not been very active but logged these. 14 Mc. c.w.: VQ8HB 1634, AC5CP 1124, HM4AQ 1104, 5Q5AAA 1720 (times G.M.T.). And a long list of the less common European prefixes. On 7 Mc.- 5A1GM, VS4RS, KR8MD and others. On 21 Mc. hrd. PX1BR and wkd. Ws on 3.5 Mc. (Welcome to the columns OB and pse some more notes next month.)

Len VK3ALD reports that condx on 21 Mc. are poor and the band has shown little activity. However, he did manage a couple of nice ones in EP2BE and HC1FS, and hrd. G3NOT and YE1CG

Eric BERS185, who is always on the job, comes to hand with the following—3.5 Mc. hrd. JA1CO, JA6AK, LZ1KPZ, OK1KUR, UD6KBD, WH6QT. 7 Mc.: JA5LW, JA7AB, JA5YG, DL-6FS, I1HM, KR6LF, 5P7HX. VS6RS. 14 Mc. a.m. DU1AM VK9GP VR4CB, FK8AU, VK8AU, ZE7JR VR2BC 14 Mc. c.w. AP5CP, EP2BK, FO8AN ET3AZ, FB8XK, ET2US, HK9TD, JZ0BM, KC6BD, KV4CI, KX6AJ, SV0W1, TI5LA, TI2WA, UA2AW, UD6KAK, UH8BO, UO5PK, UP2KAF, VK9GP, VQ9HB 1630z, XZ2NS, VR-2AB, VR2BZ, VR2EB, VR4CV, VS6EM, 9M2FY, YJ1MA, YV5FV, ZK2AD, ZL5AD, ZS5UP, ZS-5UR, ZS6AWV ZS6BEJ 6W8DE 2030z, 4S7EC, 4S7NE, 5N2LKZ, 9M2UF, 9M2UR, LA7RF/M (Eric can you please include the times of the 3.5 Mc. loggings. Tks. OM.)

Rod de Balfour breaks the ice and comes into the column with a good list of DX and an informative report on conditions. He heard on 14 Mc. phone VU2TX and other VUs, DU-1AN, DU7GB, VS1FZ, VS1KR, JA5YG, 9M2AD, and other 9M2s. XW8AL, CR6AI, HL9KT, HL-9KS, BV1US, 4S7YJ, ZC5KF, VS6GS KR6KG, JZ0BM, PK2HT, AP2U, EP3RO, EP2BK MP-4MAH, MP4BVZ, UP5KAA, MP4TAC, VU2PVV, VE3BQL/SU, ZC4PC, 3A2CN, I1OU and other Europeans, FS8XF, G3PU, GM3DZB, ON4OU, UB2KK DL4UZ CN8JO, ZE3JC ZE7JZ, ZK1AA, ZK1BS, ZK1AY, VR3EF, FK8AM, TI2ES, KZ5LW, VP2SY St Vincent) YV2EJ, CR3CO, CX6RT 14 Mc s.s.b VU2NR KR-6HG MP4BAB MP4BDR, W6QQM/KB6, KS-6BV FP2AT XW8AL DL4YY, DL5TX, G4CD, 9M2CCM OH3GM KB2UZ, etc (Good luck with your studies but remember me with your reports OM.)

Don L2022 has been away on holidays, so there is no report from him this month, but he did receive the following QSLs 9U5MC, GM3EST, CR7CH, ZB2AD, VP1SS, OK3IR, YO2KAB, 9M2FS, HM1AP, OH8NW

Peter Drew, L6021, is another newcomer to these notes, and sends in a very comprehensive report. 20 mx phone a.m. DU1AN, KR6, ZL, MP4, VU2, HI8JSM, 4S7, JZ0BM 4X4, 9M2, DJ1OJ, JA, VS1KF VK9GR EP2, XW8AL, VS6GS, I1CWZ, VE3BQL/SU, VQ4GT, 6R8AA, VQ8AM, BV1USA, I1TMO, I1SM, VS6EC, VS-1QZ, VS6EM VK9RL, DU1SRG, FB1UP UA-4KHW, VS6AJA, HL9HS, ZS8TA, DU8MJ, I1BAT, DU7GB, XE2TF, DL3XO, ZS4LA, ZS-6AJ ZS6AWW G3AMM I1VK ZS6AJX VS-1FZ, CR7CJ, HL9KS, VK0CH, ZS4MG, 5P7LA, Ws. 20 mx s.s.b KC4 4X4 EP2, MP4, 9M2, BV1AF, ZS6 VU2NR ZS6RU DJ1BZ UH8KAB YB1MS, VE, VQ2AT, KR6, W6SPK KG6 DL-7BA, XZ2NS, HZ1AB, VK0TC, ZS7P, YV5AQC, EL2V. 80 mx c.w.: G, W, HR8CQ, OH, UR-2KAN VU3 9M8 UD6BE UB5 ZC4PB DJ-8WV. 40 mx phone. VK2AUS/MM, ZL, W. 40 mx c.w.: VK2AUS/MM, K6, W, JA. 80 mx phone ZL. (Yes, Peter, a monthly report from you would be appreciated.)

Bud VK2AQJ had the following 14 Mc. QSOs on s.s.b. KC4USS 1058z, XZ2AD 1113z, KG-6IJ (Iwo Jima 0930z, W6VCA (Aero Mobile) 0630z, CE3RC 1130z, KA2AO 1100z, JA4HM 0930z, KR8BA 0958z, XW8AS 1022z, HS1X 1036z, KC4USP 1044z. (Tks. Bud OB. Let's have next month's notes a day or so earlier pse.)

SUMMARY

Prediction for March. 21 Mc may open up to the East during the early afternoon, but this seems uncertain as the band is more dead than alive. 14 and 7 Mc. should be better. With luck the Europeans may show up on the long path in the afternoons on 20 mx and 40 mx should continue to be fair at least at night. However, it must be expected that on some days the bands will be flat and uncooperative.

My thanks to all those who have helped this column along and made my job easier. This month they were: VKs 2TJ, 2TL, 4VO, 4DO, 5QL, 5ZMS, 5RX, 5RK, 6SM, 3ALD, BERS185 L2022, L6021 and certainly not least, Rod de Balfour. 73 chaps, de Al VK4SS.

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CALL BOOK MAGAZINE

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Sub Editor: ROBERT YOUNG, WIA-L3078,
14 Alverna Grove, Brighton, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Victoria.—Last general meeting of the Group only six members were present. (What has happened to our large Group?) Plans are being made to have speakers and demonstrations on the meeting nights, and also visits to various places for each month, so why not come along, there will be subjects to interest everyone.

Noel Harrison has been away for a fortnight on holidays at Echuca, but had some bad luck on the way there, his car decided to cease a con rod and on driving it a few miles to Echuca ruined the crank shaft. However the engine needed re-conditioning, so the complete job was performed before leaving for home. Mac Hilliard is still listening very solidly on v.h.f. and has had very little time for the lower frequencies (a little bird told me that Mac is considering buying a new receiver but at the moment it's top secret, hi).

Maurie Cox has just received his long-awaited modified 348 and is quite pleased with the results. Recently Maurie moved things around in his shack (or should I say bedroom) and found his lead-in on the antenna was too short, so he joined a piece of 300 ohm ribbon to the open wire and heard nothing more than t.v.i. Needless to say, the rx is back in its old position once again.

South Australia.—Colin L5031 reports that things are fairly quiet in his part of the State, however he just received a new rx which replaces his old 7-tube home-brew that has been in use for the last 12 months. The new rx is an Eddystone 640 which is performing really well. A 2 mx converter is under construction and is almost complete except for a xtal and a condenser which Col is awaiting for. The antenna set-up for 2 mx is a 10 el. beam about 55 ft. high, fed with 300 ohm line.

Dale L5026 has now received his Z call and hopes to be on 6 mx by March, under the call of 5ZER. Three of the local s.w.l's. sat for their Limited licence at the last exam. They were John Lehmann, Gary Smythe and Les Jones. (Wish you luck chaps.) Gary L5026 has recently purchased a tower and hopes to have it erected soon. It will be used to mount his v.h.f. beams on.

Tasmania.—Neville 7ZEE/L7013 says that things are very quiet in VK7 land. The main active members of the small group are Ted Beard. Mike Jenner, Dave Berry, Richard Rodgers and not forgetting Neville Fisher. They are respectively 7EB, 7ZAV, 7ZAY, 7ZAN and 7ZEE.

The only s.w.l. activity to date is that of a new member, Greg Johnston. The following are a few of his choice ones heard in the last month: MP4BBW, EP2BM, DL6RSA, OD5CT, PA0SM, 4X4AS, 5A3TY, YK1AK, XZ2SY, UB-5UM, ZK1BS, ZS6ED, XZ2SY, CR8AK, XW-8AS, BV1US. The above stations were all on s.s.b. Greg uses as a rx a 4-tube xtal locked converter feeding into a 8-tube i.f. and audio stages, and also a Heathkit Q Multiplier. The antenna is a vee beam and a dipole.

The VK7 Group have ceased having meetings but still exist as a Group.

RADIO MAIL

The letters this month are from the following gentlemen: Aftan Wescott, Eric Trebilcock, Peter Drew, Tom Kennedy and Don Grantley.

Aftan L2136/VK4 reports that band conditions have been quite dull with very few break throughs on 6 mx, but on the other hand it could have been better if more time could be devoted to listening. Reception on 20 and 15 mx has been very patchy with some very good openings from W land and Europe.

For those who are interested in Chatham Island, ZL4JF will be operating on 14.130 Mc. at 0400 G.M.T each Sunday for a few weeks, but it is not known definitely for how long. Aftan is now installing a 23 ft. vertical antenna covering from 80 through to 20 mx. He says that the vertical has good results on reception.

Peter L8021 also has very little news except a few notes on 20 mx DX. It has been very good between 1100 and 1600 G.M.T. nearly every night, occasionally it is fair around 1100 G.M.T. Peter heard JA, 9M2, DU and then gradually working back during the night to XW8, XZ2, VU2, EP2, MP4, OD5, 11 and then the rest of Europe. The Asian stations are audible every night, Europeans about 75 per cent. of the nights, and South Africa about 10 to 20 per cent. The strength of the Asian stations is excellent, especially EP2, 9M2, XW8, VU and MP4.

If the band opens at 2300-0100 G.M.T (which is about 50 per cent. of the mornings) the areas audible are North and South America and East Asia.

40 metres has been fair for Ws on c.w. at 0800-1000 G.M.T. and JAs later. Peter has been hearing more a.m. stations than s.s.b. on 20 metres, which is unusual for 20.

During 1961 Eric Trebilcock heard 142 countries and 39 zones, also 35 ships and five motor cars. Eric sent out 1,100 reports. He missed hearing Zone 12 and also missed getting cards from Zones 12 and 36. This year Eric has heard 46 countries, 28 zones and one ship and has received 40 QSL cards, and has sent out 32 reports.

Tom Kennedy, L3112, has just purchased a new rx, the name of which is Lafayette HE-30, and is made in Japan under licence from Lafayette in U.S.A., and was only released in January. The new rx will replace the AR8 as a main rx. Tom is now using a Philips Transworld which is transistorised and Philips are overhauling a 8-tube Telefunken as a stand-by rx. The antenna being used is an inverted L which is 40 ft. high. This antenna is said to be giving strong clear signals on Amateur and DX bands. Tom says that the next move will be to get some QSL cards printed, won't be a bad idea, hi!

Dave Jenkins, L3039, is intending to start studying for his ticket when he gets a decent rx line-up. Dave has nearly completed a 10, 15 and 20 mx converter and when that is completed and operating correctly a start will be made on a rx to cover 40 and 80 mx.

Don L3068, from Albury, has had a very good start on his listening activities. The log book says that on 16/1/62 to the end of Feb., 57 countries were logged and 31 zones. Don has had rx trouble (didn't think you could have trouble with the AR7 Don). The symptoms were no b.f.o., no audio control, weak distorted signals, so Don got to work with his voltmeter which showed no voltage on plate or screen of the second detector-first audio tube (6G8), yet the dropping resistors were reading 230v. input—thus a short circuit some place.

Briefly this is what had happened. The lead of the grid cap had been cut through by the valve shield and shorted it to earth. This in turn overheated the blocking resistor between first audio and second audio. The resistor got so hot that it came unsoldered from the set. The resistor was then re-soldered in and the rx was then in operation. The 6U7s, 6X5s and the 6C8 were replaced and the set lined up. It is now operating better than ever. But in the process of working on it, the b.f.o. on Don's other set blew up, so a.m. could only be received.

Don is a bit annoyed re the new rule in the s.w.l. Section of Contests. He has been docked the best part of 100 points in the R.D. He thinks he should have read the rules. It appears that we cannot claim points for both sides of a contact, which seems unfair.

Don has had some good confirmations of late. They are AP5CP, GM3EST, 9U5MC, CR7CH, ZB2AD, VP1BS, YO3KAR, OK3IR. In fact 9U5MC sent all his VK cards to Don to distribute.

Well chaps that's all from me this month. I wish to thank listeners who have written to me with news for this page. Hope to get many more. All letters will now be answered personally. Till next month, 73 and best of DX, Robert L3078.

S.W.L. DX LADDER FOR MARCH

	Countries		Zns.	S.s.b.		W
	Conf.	Hrd.	Conf.	Conf.	Hrd.	Stat.
E. Trebilcock	274	280	40	—	—	5
D. Grantley	96	244	37	13	78	31
A. Wescott	80	156	31	33	92	—
M. Hilliard	67	205	33	5	100	11
M. Cox	38	210	21	6	118	14
C. Abernethy	30	57	21	—	—	13
P. Drew	28	170	17	7	73	4
P. Fields	25	133	—	—	—	—
N. Harrison	26	27	20	—	—	23
I. Thomas	17	171	17	6	68	4
D. Jenkins	10	141	7	—	—	—
H. Burger	6	165	3	1	19	—
N. Fisher	2	36	5	—	—	—

CORRESPONDENCE

(Continued from Page 11)

The average American Amateur is not affected by the refusal of their government to license aliens. This apathy amongst the Amateurs will not ease the passage of the bill, and if it is defeated I think we should ask ourselves the following question:

Should we continue to grant licences to American Amateurs, or should we follow the example of England and refuse to do so until they relax their own laws?

—David S. Robertson, VK1ATR,
128 Schlich St., Yarralumba, Canberra.

ROSS HULL V.H.F CONTEST

Editor "A.R.," Dear Sir,

After operating in the '61-62 Ross Hull V.h.f. Contest, there are a few points I would like to make.

1. The object of the Contest can hardly be as stated in "A.R." Nov '61, p.5, with the changed scoring system. I would suggest that the wording be along the lines of the following:

> "That Amateur v.h.f. operators will endeavour to contact as many other v.h.f. operators as possible under the conditions following."

2. I repeat my earlier suggestion that the duration of the Contest be the 1st Dec. to 31st Jan., but an operator is to submit his log for any consecutive 168 hour period (7 days) within that time and that such 168 hour period be of his own choosing. (For thoughts on this subject I would refer to my letter appearing in "A.R." April '61, p.16.)

3. I now feel my original scoring table should be altered slightly:—

	50 Mc.	144 Mc.	288 Mc.	576 Mc.	High-er
Over 1 & up to 10 miles	0	0	0	1	2
,, 10 ,, 25 ,,	0	0	1	2	4
,, 25 ,, 50 ,,	1	0	2	5	8
,, 50 ,, 100 ,,	2	1	4	10	15
,, 100 ,, 200 ,,	5	3	8	15	20
,, 200 ,, 300 ,,	10	5	2	20	
,, 300 ,, 600 ,,	3	3	15		
,, 600 ,, 1200 ,,	1	15			
,,1200 ,, 1500 ,,	2	20			
,,1500 ,, 5000 ,,	5				
Greater than 5000 miles	10				

The main alteration consists of altering the distance range 300-500 miles to 300-600, the 500-1000 miles to 600-1200, and adding 1200-1500 mile range.

This change will, in the main, affect only 50 Mc. work and should eliminate some anomalies existing in my original table proposed in "A.R." April '61, p.16, and June '61, p.16.

The table used in the latest Contest is almost exactly the one proposed by VK5AW and VK-5ZCR in "A.R." May '61, p.15. My reasons for disagreeing with the points allocated therein still hold and I refer to my letter in "A.R." June '61, p.16.

4. Is it logical to call a contest involving both v.h.f. (30-300 Mc.) and u.h.f. (300-3000 Mc.) allocations the "Ross Hull Memorial V.h.f. Contest" Why not the "Ross Hull Memorial V.h.f./U.h.f. Contest"?

5. Rule 3 in the Receiving Section should be clarified. The term "not the station worked" cannot apply to s.w.l.; they do not "work" stations. I take it the rule is meant to imply that an s.w.l. need hear only one side of a contact. Could this not be stated in so many words and clarify the position for the average s.w.l.

Perhaps I am prejudiced, but I feel that the Contest this season was made more interesting by the new scoring technique, and whilst I do disagree with the details, I feel the basic idea should be retained in future events. Does anybody agree with me? Does anybody disagree?

—David Rankin, VK3QV.

FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

EXTRACTS FROM I.A.R.U. CALENDAR

The most spectacular event, from the standpoint of Amateur Radio, for the calendar year 1961 was the placing in orbit on December 12 of the "Oscar" 15 Mc. satellite. This event was a fitting celebration of the 60th anniversary of Marconi's first transatlantic transmission and the 40th anniversary of the first Amateur transatlantic transmission. "Oscar" (Orbiting Satellite Carrying Amateur Radio), which was built entirely by U.S. Amateurs and is the world's first non-military, non-Government satellite, operated exceptionally well for the three weeks of its expected life. The "Oscar" group is now busy correlating tracking information sent in by numerous Amateurs in countries throughout the world. After a careful evaluation of the collected data, plans will be discussed concerning future Amateur activity in this field.

MALAYAN PROPOSAL REJECTED

The Malayan proposal, which proposed a power limitation of 250 watts, separate c.w. segments at the bottom of 10, 15 and 20 metres, and restriction of traffic handling on 10, 15 and 20 metres to c.w. except on cases of a national emergency, was defeated by a vote of 17 opposed to 9 in favor.

The Wireless Institute of Australia's remarks accompanying the vote sheet were as follows: The Executive was not certain whether this motion was to be considered as a whole, or each part voted on separately. If the latter was the case, the vote was (1) Nay, (2) Nay, although it was agreed that this in principle was desirable but probably unworkable in practice, as the W.I.A. already has separate allocations within the bands but on a "gentlemen's agreement" basis only; and (3) Nay. Individual comments were on (1) this was considered too restrictive in certain countries with higher power and had no effect in countries with lower power, as in Australia's case with 160 watts all [illegible]s. On (3) the question of traffic handling was not understood, except that it may have referred to U.S.A. overseas stations working third party traffic back to the States, and it would in any case be very difficult to control, if agreed.

NEW MEMBER SOCIETY

The proposal to admit the Korean Radio Amateur League, Inc., as the member society for Korea was carried 28 aye votes to none opposed. As a result, the Korean Radio Amateur League, Inc., is elected a member society of the Union.

The W.I.A. cordially welcomes K.A.R.L. into membership and extends good wishes to our new member.

CHANGE OF NAME FOR SOCIETY

The Burma Amateur Radio Society has informed the Union that by unanimous vote the members have decided to change the name of their organisation to The Burma Amateur Radio Transmitting Society. The new address is P.O. Box 800, 25 Maung Tulay St., Rangoon, Burma.

NEW CALL SIGNS (NOVEMBER)

VK— **New South Wales**

2RF—L. J. Trewhella, Wyoming Rd., Narara.
2TO—T. Olrog, 5 Gutherie Ave., Cremorne.
2YH—C. E. Aston, 216 Michells Pass, Glenbrook.
2AKN—C. Menzies, 2 Nyora St., Griffith.
2ANT—K. V. Outten, 2 Lily St., North Ryde.
2ANY—K. J. Collins, 1 Melrose St., Epping.
2ZFP—A. J. Perkins, 18 Moresby St., Orange.
2ZKS—J. R. Saunders, C/o. A. Haslett, Glenderry, Curban.
2ZKW—K. J. Watson, 6 Porter Av., E. Maitland.
2ZRK—D. K. Reynolds, 21 Toorak Av., Wollongong.
2ZRI—J. M. Richardson, 24 Grandview Rd., New Lambton.
2ZRO—J. M. Saunders, 28 Kotara Pl., Kotara.
2ZXA—D. Russell, 87 Darley Rd., Randwick.

Victoria

3TO—J. E. Rogers, 61 Broadway, Yallourn.
3UB—S. Atkinson, 15 Queens Av., Ararat.
3AIC—F. C. Beech, M.V. "Kooliga," C/o. Marine Dept., A.W.A., York St., Sydney.
3AMZ—W. E. Sadler, Station: Cr. Walker and Moola Sts., Ballarat, Postal: C/o. 208 Eyre St., Ballarat.
3AVE—A. G. Dixon, 17 Curlewis St., Mont Albert.
3ZMF—P. E. Kinchela, 65 Murray St., South Caulfield.
3ZMI—L. B. Noseda, 31 Seymour St., Traralgon.
3ZMO—R. D. Morris, 12 Compton St., Reservoir.
3ZMU—V. R. Thek, 5 Fletcher St., Nunawading.
3ZNA—G. R. Angus, 7 Glenleith Av., North Geelong.
3ZNC—D. R. St. John, 7 Coquette St., West Geelong.
3ZNI—J. L. Faulkner, 1 Dongala Rd., West Footscray.
3ZNK—K. J. Drummond, 2 Butters St., Morwell.

Queensland

4ON—O. J. Nattrass, 80 Duke St., Toowong.
4ZAW—A. L. Watts, 60 Sandgate Rd., Bald Hills.
4ZBB—J. C. Baird, 7 Howard St., Grange.
4ZJC—J. S. Strudwick, 13 Powles St., Roma.
4ZLA—L. A. Hughes, 15 Mardale St., Grange.
4ZMD—M. T. Deakin, C/o. Police Station, Urandangie.
4ZRG—R. L. Grummitt, 85 Walker St., Bundaberg.
4ZRK—R. J. Wyeth, 295 Ipswich Rd., Annerley.
4ZRS—R. Sayers, 24 McKillop St., Belgian Gardens, Townsville.
4ZWG—W. L. Gielis, 251 Sheridan St., Cairns.
4ZWP—W. H. Pickering, Warran St., Ingham.

South Australia

5EI—D. C. Cooper, 29 Innes St., Elizabeth Park.
5ZDY—T. A. A. Bellm, Old Mt. Barker Rd., Stirling East.
5ZGD—G. D. Geue, 19 Fashoda St., Hyde Park.

Territories

9AU—R. A. J. Taylor, Station: Minihi Ave., Boroko, Port Moresby, P.; Postal, P.O. Box 216, Port Moresby, P.
9DX—Rabaul Amateur Radio Club, Station: Mango Ave., Rabaul, N.G., Postal P.O. Box 170, Rabaul, N.G.
9LA—L. C. Allen, C/o. D.C.A., Cocos Island.
9ZBY—J. P. Hoyden, C/o. 9PA/VLT, P.O. Box 110, Port Moresby, P.

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FEDERAL QSL BUREAU

Since the Republic of South Africa came into being on 31st May, 1961, the advisability of the South African Radio League sponsoring the worked British Commonwealth of Nations certificate has been discussed by the Council of the South African Radio League.

It has been decided that awards will be issued for contacts fulfilling the conditions made before 31st May, 1962.

"The way of having the widely known 'Game of Rummy in the Ether' Diploma, issued by the Hungarian Radio Amateurs, 15th October, 1960, conditions are modified as follows: (1) One can have a Diploma operating in phone system too. (2) For single pieces of cards I.R.C. isn't asked for, but it is wanted for a Diploma, or rather, acquiring the second and third degrees (of I.R.C. needed 5 pieces for a diploma, 3 pieces for II. degree, and 3 pieces for III. degree). The rules of game of cards, apart from abovementioned alterations, are unchanged."—HA5BD.

Details of valve line-up, circuitry and availability of a manual for wartime R.A.A.F. receiver AR10 is urgently required.

According to the S.S.A. the station SM5BXI, operating from M/S Bonjour in the Baltic, is a pirate. The operator once was entitled to use this call but his certificate has lapsed. As the ship is located outside the Swedish territorial waters he now works with his previous call as an unlicensee. What is more, the call BXI now belongs to another Ham in the second Amateur Radio district of SM. That means that the station SM2BXI is OK.

Can anyone give any information on present location of VK9MP, VK3PU (Ted), and VK-9PZ (Dick). A large number of cards are held at this Bureau for these stations which are now unknown in VK9.

The Shizuoka Amateur Radio Club (S.A.R.C.) issues the Shizuoka-A-I. (for contact with two members) and the Shizuoka-A-II. (for contact with five stations in Shizuoka Prefecture including at least two S.A.R.C. members) Certificates to licensed Amateurs all over the world. Contacts count after 29th July, 1952. Application including QSLs, six I.R.C's. and list for the contact may be sent to Award Manager, JA2JW, Y. Hoshiyama, P.O. Box 147, Shizuoka, Japan.

Radio Amateurs throughout the British Commonwealth and Empire are invited to take part in the 25th B.E.R.U. Contest to be held on March 10-11, 1962. Rules are unchanged and may be had from this Bureau. It is noted that ZS1, 2, 4, 5 and 6 no longer appear in the B.E.R.U. list of call areas eligible to take part in the Contest.

Cards through the Federal Bureau during January totalled 5,246. This is the highest monthly total since May 1950!

—Ray Jones, VK3RJ, Manager.

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FEDERAL AWARDS

From 6th January to 8th February, 1962, V.h.f. Awards have been made as follows:—

V.H.F.C.C.

No. 6—Col Wright, VK7LZ, 50 Mc. 118 confirmations.
No. 7—Bob Elms, VK6BE, 50 Mc. 300.
No. 8—Roy Hart, VK2HO, 144 Mc. 132.
No. 9—Bill Rushby, VK2ABR, 50 Mc. 143.
No. 10—Bill Wehr, VK5ZAX, 50 Mc. 100.
No. 11—Bill O'Donnell, VK4ZBE, 50 Mc. 100.
No. 12—Frank Williams, VK3FW (ex-VK3AFW, VK3ZDW), 144 Mc. 157.
No. 13—Lance Bickford, VK4ZAZ, 50 Mc. 347.

W.A.S. 50 Mc.

No. 23—B. Cleworth, VK5BQ (ex-VK5ZBZ).
No. 24—Col Wright, VK7LZ, plus JA, ZL, Papua.
No. 25—Jim Forse, VK3ZHF, plus JA, KH6, ZL.
No. 26—Lance Bickford, VK4ZAZ, plus JA, KH6, KR6, Papua, T.N.G., W, ZL.
No. 27—Max Lindsay, VK6HD, plus JA, KH6, KR6, KX6, Papua, T.N.G., W, ZL.
No. 28—Noel Ferguson, VK3ZGZ, plus JA, ZL.
No. 29—Bill O'Donnell, VK4ZBE, plus JA, KH6, KR6, Papua, VS6, ZL.

W.A.V.R.C.A.

During the past three months Awards Nos. 185-201 have been made to: GI6RY, KL7MF, SM7MS, W5PQA, W9UXO, W1EQ, W8RU, K4JVE, W6ID, W9OVF, XZ2SY, W6DQH, W2NUT, GM6MD, UC2AA, G2FFO, and XE1CV.

—Alf Kissick, VK3KB, Awards Officer.

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NEW SOUTH WALES

GENERAL MEETING

The January general meeting of the N.S.W. Division was held at Science House, Gloucester St., Sydney, on 26th Jan., 1962, with a very good attendance of some 75 members attending. The occasion of this meeting was the opening of the 12th Annual Convention of the Division and was presided over by the President, Bill 2YB. Opening the meeting at 8 p.m., the President welcomed the members present and following the presentation of the minutes by the Minute Secretary (Max 2MP), business was suspended to enable the lecturer for the evening to take the stand.

A most interesting lecture was presented by Bob Wilson, of Stromberg-Carlson Ltd., who spoke on a subject of timely interest, "Linear Amplifiers." Bob illustrated the fundamental differences between the various types of r.f. amplifiers, with many slides, and followed with the many technical aspects of many types of linear amplifiers as applied to s.s.b. techniques. The vote of thanks to the lecturer was moved by Leo 2AC and was supported by acclamation.

Following the lecture, business of the evening was resumed and five new members were admitted to the Division, one of whom was present at the meeting and was welcomed by the President.

WERE YOU BORN IN U.K.?

Any Australian Amateur who was born in the United Kingdom is requested to contact Will Schuman, WA6GLF, of 111 W. Hillcrest Blvd, Monrovia, California, U.S.A.

As is customary at the January meeting, the election of Federal Councillor for the ensuing year was held. Two nominations were accepted, that of the retiring Federal Councillor, Pierce Healy (2APQ), and that of Jim Corbin (2YC), who had held that position some years past. After the ballot was taken it was announced that Pierce Healy (2APQ) had been re-elected to the post. Members wish Pierce all success in this position.

The Adams Trophy was then presented to Vic 2VL by the President. This trophy is presented annually to the member of this Division who writes the best article for "Amateur Radio" during the past year. Vic's article, "A Reference Shift Modulator for Mobiles" was judged the best for the year. This appeared in October 1961. We suggest that more of our members endeavour to win this trophy in the coming year, and you may be sure that your article will be appreciated, not only by the members of all Divisions, but by the Magazine Committee who would like to see more such articles from the pen of Amateurs.

A recent licensee, 2ZCH, spoke on the excellence of the A.O.C.P. classes which are supervised by our Class Manager, Cec. 2FR, and not only tendered his personal thanks to Cec., but also spoke on behalf of all those who, having taken the course, have attained their licences as a result of his efforts on their behalf. We feel sure that there will be many applications for the new course which commences at 14 Atchison St., Crows Nest, this month.

HEADQUARTERS OPENING

As many members are aware, the builders are, despite the inclement weather of the past two months, going well ahead with the alterations at Atchison Street. It is envisaged that the new meeting hall will be officially opened on March 17, 1962. This will represent a great advance to this Division, and will enable future Councils to organise their meetings and other activities in our own premises.

AGENDA ITEMS

Any agenda items which members would like presented at the Federal Convention, which will be held at Perth at Easter, should be sent in to the Federal Councillor, Pierce 2APQ, **immediately.** If discussions we hear from time to time are any indication, there must be many such items which should take their place on the agenda.

SLOW MORSE

The Slow Morse transmissions are conducted nightly on 3550 Kc. under the supervision of Frank Pearson. The many members who will be taking the A.O.C.P. Course and the A.O.C.P. Correspondence Course will find these transmissions, which are conducted by a roster of members, invaluable in their efforts to attain a full ticket. Transmissions commence at 7.30 p.m. nightly.

DX DE LUXE

One of the most unusual of DX contacts occurred recently when Dudley 2DQ, of Broken Hill, made contact with a station operating submarine mobile. The station in question was operating, we understand, in the Puerto Rico area, and was submerged with a whip antenna only a few feet above the water. A contact of some duration was made by Dudley who uses only about 50 watts and has a dipole antenna. This contact was reported in the National News Bulletin on at least two occasions, bringing the Amateur Service to the attention of listeners. The mode used . . . s.s.b.

HUNTER BRANCH

Having now partly recovered from my yearly six weeks' hibernation I once again greet all my faithful readers, or was it reader. Having made all kinds of plans as to what to accomplish in the holidays, I promptly forgot the lot and rested, again. However, I was awakened from the just sleep by three lakeside characters who wished to travel to the big smoke and the Annual Dural Convention. And these said persons were Harry 2AFA, Bill 2ZL and Belmont Bob, and the driver who shall remain anonymous. On arrival we noticed that many other Hunter Branch chaps had the same idea. Those recorded as being present were our President 2AYF, Les 2RJ and Sylvia, Bill 2XT, Ern 2FP, Stan 2AYL and Fred 2AEE.

A welcome goes out to a new member of the Branch in the person of Rudy Meinsma, an ex PK4, now living in Mayfield. Although the Postmaster General does not agree to a reciprocal issue of licence, Rudy is not going to be defeated and intends sitting for the big quiz as soon as his QTH problem is solved. Although no notes appear for the Booragul High School Radio Club in this issue I must here record the generosity of Rudy who has kindly donated a great deal of useful modern tubes, some display items, a multimeter and assorted items which will prove very useful.

I have noted that Des Mills, of South Cardiff, has his call but the crystal ball tells me not what it is. Our President recently visited the VK3 domain and found that the 2 mx activity in that neck of the woods was just right. DX was so good that Stewart was able to work two VK7s, establishing a station-to-station distance of 265 miles. At the home QTH, the 50 Mc. rig has been persuaded to keep off the frequency of Channel 2 and this means that 6 mx can now be worked while the family watches t.v.—a most satisfactory domestic arrangement.

During the holidays, Max, Harry 2AFA and Keith 2AKX visited the motor ship Anulya in Newcastle and there met Alex, ex 2AKX and now 4KX. Much was the surprise all round and Alex wonders if such a thing has happened before. The locals were treated to a grand tour of the ship with Rudy and Alex as couriers. Of especial interest was the radio room where 3BZ rx's are used. Thanks again to Rudy and Alex.

Gordon 2ZSG is reported to be ready to go on the air at the earliest possible moment or on 4th March, whichever is the sooner. You of course will recall that on 4th March the r.f. begins radiating from the hills beyond 2AQR where already a 450 ft. mast may be seen from practically anywhere in the zone. Mac 2ZMO has built himself a standby rig for any eventuality which may arise. Kev 2ZKW at Maitland is using the freq. of 145.3 Mc., so you DX chaps may take a listen for him there.

At last the Sydney barrier has been broken by Ian 2ZIF, who has worked that fair city on 2 mx. Although not transmitting on 2, Les 2RJ listens on this band and there are hopes that he may one day join the gang in Newcastle which now numbers approx. ten. This is a good percentage of all active members in the area. John 2ZJG reports that he heard a VK4 twice on 144 on Dec. 31 and was so elated that he took a holiday immediately to Nelson Bay, calling to see the local apothecaries en route. Muriel 2AIA is celebrating her victory over 2ZL and 2AQR in the 2 mx race.

Bruce, our B.H.S. note writer, has now been exiled to Sydney where he is in training on equipment supplied by Mr. Davidson. As he lives only a few yards from Harold 2AAH, I expect some startling transistor developments shortly.

Will you please take note that the next meeting is the A.G.M. at which anything is

likely to happen, including the proverbial custard pie eating contest between past and present zone correspondents, and all kinds of hilarity such as rigged elections, loud shouting and playing the flute, to mention but a few. If you would like to join this free for all and as well hear words of wisdom from our President, then come along, but bring your shin pads, to the University of N.S.W., Newcastle College, Tigers Hill, on 9th March, at 8 p.m. or thereabouts, prepared to be elected to any position. And take further note that no election handbills will be allowed in the polling booth by order of the Sergeant at Arms, T. V. Ross. See you there, 73, 2AKX.

CENTRAL COAST ZONE

During the holiday season we have had visitors from afar including Bruce 3BM and Tom 3AOG. This latter gentleman was active on 80, 40, and 2 mx including mobile operation with 1¼ watts input. Many stations in Sydney were worked at 59 from a suitable location near Gosford. Ken 2ANU enjoyed his holiday at Terrigal and was able to pick up a few hints on sideband tx's by visiting local shacks. His mobile rx complete with xtal lattice filter must be seen to be appreciated, a model of compactness and neat wiring. He operates mobile on 40.

The Gosford Radio Club lecturer for January was your scribe 2ON. Great interest was displayed in the practical aspects of sideband tx construction. A short tape recording to illustrate the lecture accidentally presented the voices of several members engaged in QSO. Bob 2IN said he was amazed at the quality obtainable with s.s.b. on a good rx as demonstrated on the tape. Does anyone have a secondhand 75A4 for sale?

At this late stage we wish to thank Mrs. Collett and Major 2RU for the Christmas party complete with delicious dishes. Ruth's cooking is quite renowned.

Alec 2AAK and XYL Mona have moved into their new home on the Mountain at Kulnura. A warm welcome meets you at the end of five miles of backwoods road. Alec is transferring his activities from Avoca and concentrating on the orange orchard in the hills. Bob 2IN has moved from Long Jetty to Killarney Vale and is back on 40 phone. His masts were dissembled by a number of willing helpers from the Gosford Club. Len 2AMU is very pleased with his HT37 and should be heard more frequently soon. I heard rumours that he was about to invade those long-forgotten bands—40 and 80 mx. One of the keenest members in the club is Len Miller, aged 14 years, who listens on his newly constructed five-tube superhet. He is hastening to add a b.f.o. so as not to miss what the sideband men are saying.

Contacts with W sideband stations on 7200 to 7210 Kc. have become fairly simple when static is not severe. Between 1700 and 1900 local time they monitor 7090 to 7110 Kc. for VK and ZL stations. Some Ws use rotary beams but others use dipoles only 20 feet high! A number of 2 mx xtals have been distributed and soon there will be a rush of activity in the Gosford area on this band. John 2RF (formerly 2ZJT) has had a successful mobile holiday by caravan to the Snowy Mountains, Murray River, Bairnsdale, Geelong, Melbourne and Mt. Buffalo. Skeds were kept with several Gosford stations over three weeks of operation.

BLUE MOUNTAINS SECTION

The January monthly meeting was well attended with 19 members at Lawson on 10th. There being no lecture and little business, the meeting closed early, but the normal ragchew continued for quite some while, which included the operating of the club tx providing the first contact for 1962. At this stage I must apologise for the absence of notes in the past issue relating to our Xmas meeting and party which turned out most enjoyable. On this occasion, Keith 2ABK gave us a few hints on "How to get the most out of your car, with almost no cost."

Noel Walker sat for the last A.O.C.P. exam., feels hopeful and is busy setting up on 2 mx with a Geloso v.f.o. with xtal, using same as it should be used. Bill 2HZ has been on holidays down south and by all accounts had a good time. Jack Ferris is looking for customers who might require the services of his just completed 5 in. c.r.o. after ironing out a few bugs. I noticed during my travels in a city radio supplier, Jay Zylstra buying up, so looks like Jay is busy with a secret weapon, may be on 2 mx.

Bob 2ASZ had a break through on 2 mx from near Goulburn across to ZL land, pity you could not hold him for the Contest Bob, but no doubt a very satisfactory effort; congrats. Band activity here at yours truly's has been very poor including a burnt out power supply that has been dying for some while. Everybody will be pleased, what no hum! Don 2ART is joining the mobile ranks with 7 and 144 Mc when he completes a few loose ends—good for you, Don. Jack 2ADF is blowing the spiders, etc., out of his Geloso d.c. rig with no luck. Wal 2MZ and Ken 2AVN went to a bush fire brigade meeting the other night, am not up with the latest news but all seems to be progressing successfully. Al 2ZFB has retired from 2 mx and is busy on 6 mx raking up all the DX. 73, Ron 2ADA.

AUSTRALIAN CAPITAL TERRITORY

Activity in VK1 land has been rather quiet since Xmas. Brian 1KK has been on a quiet holiday down the coast and found that he had either to leave his wife at home or his portable rig, so weakened and was off the air for three weeks. Merv 1ML also has been away but is now back on the air. David 1DG spent some time on building and erecting a 60 ft. mast.

Local Amateurs are sitting watching for our local controllers to make some pronouncement about t.v. antennae. Rumour suggest that they will be taboo completely and this may make it difficult for the v.h.f. enthusiasts. Looks like some battles to come with t.v. on the horizon in a few weeks.

Interesting bit of b.c.i. being caused by Ron 1RJ. Character who claimed to know the game inside out was getting 1RJ on the broadcast band at a distance of 10 yards on an alleged "hi-fi" set. Tests revealed that the b.c.i. was really solid but the "hi-fi" set was merely a record player with an aerial, toroid, condenser and germanium diode coupled to the pick-up input. Crystal set owner was rather hostile until it was suggested that this was a case for the R.I. Remarkable change of attitude suggesting some dislike by complainant of a visit by R.I. No further trouble now, which suggests that complainant is about to pay his licence fee. How crazy can you get?—1DG.

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VICTORIA

At the February meeting three excellent films were shown by courtesy of Mullard Australia Pty. Ltd. They dealt with the discovery and use of x-rays, the development of an ingenious electronic system for counting small particles, and the manufacture of frame grid tubes.

The Secretary, Michael Owen, then explained the main points of the proposed Articles and Memorandum of a Federal Company with the aid of a block diagram. A lively discussion followed which reflected the interest of members in this important matter. A motion supporting Council's moves was put to the meeting and carried.

The next meeting will be held on Wednesday, 7th March, in the Radio Theatre, Royal Melbourne Institute of Technology, at which a lecture on Marine Radar will be given by Mr. John Hill of Electronic Industries Ltd. 73, 3AEL.

SOUTH WESTERN ZONE

With the holiday period over, things will be back to normal. Still very little in the way of news. I have had a few visitors. Roy 3ZFM, who will be sporting a new call by now; Bill 3ZHL, who was portable on 144 Mc. at the local camping ground, also 3AKN who had just been up to see the M.O. and had some pictures taken.

Bush fire nets have not had much to do in this district so far. Very little local action; they all seem to be building or making alterations. Bill 3WK has his 60 ft. tower up again with 1, 2, and 6 mx beams on the top. He can hear the 6 mx Melbourne lads now. 3FX says the view from the top is really good. He ought to know, as he is the only one who is game enough to have a look. We are hoping to see plenty of s.w.l's. at their Convention here in March 3-4. 73, 3ANQ.

MOORABBIN AND DISTRICT RADIO CLUB

The weekly Monday night net by club members on 80 mx is proving very popular and as many as eight have been on the frequency. The idea behind the project is to let Amateurs throughout Australia know something about our club, our members, and what we do, and the net is not confined to members only. Anybody hearing us operating is welcome to break in at any time and become acquainted with us. This net is a good opportunity for anybody chasing our Honorary Membership Certificate. As you may or may not know if you have 14 member station contacts confirmed you are eligible for this handsome certificate. Look for the net on approx. 3.6 Mc. every Monday night from 8 p.m. You will be most welcome.

A team of 15 members were out for the National Field Day and were split into three parties operating from Wonga Park near Croydon. All bands including v.h.f. were covered, but as these notes have to go to press before the actual day, more will be written about our effort next month.

A few personal notes may be of interest at this stage. Bob 3NZ has gone s.s.b. with a Collins tx. Harold 3AFQ is still in process of building, erecting masts, but finds time to be control station 3APC/P for the net on 80 mx. Peter 3XK has been holidaying in ZL. Alf 3LC has changed QTH, for those interested, the new address is 1534 High St., Glen Iris. He is still operating his hardware store at the old QTH. Ken 3ACS entertained club members to a barbeque in his grounds on 24th Feb.

Kevin 3ARD has been busy revamping the club tx which he expects to have on the air from the club room this month. Laurie 3CN is more interested in hi-fi at the present than Ham Radio. Stan 3TE as usual is active on 14 Mc. phone and c.w. New member, Kerry 3AXT, has altered shift and operates from his home QTH. Max 3DF and Bob 3AQK did a very good job with their car phones at the recent bush fires. Good luck to them. 73, 3LC.

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QUEENSLAND

GENERAL NEWS

First Sunshine State news this month comes with some disappointment. At the January Council meeting held on 5th at the Institution of Engineers' room, Jim 4PR tendered his resignation from Qld. Division Presidency and his resignation was accepted with regret. All hope he'll enjoy his break getting in lots of hours on the air. This was the first meeting held in rooms instead of in private homes, a system which does not impose on the members involved.

At the meeting, W. Jahn was appointed organiser of a listeners' group if he be willing to act. Nominations were called for 13 Division Councillors. Don't sit back and leave it to the other chap this year, Queenslanders! YOU have your right. Use it.

Attendance of 10 out of 11 Councillors at the February meeting on 2nd was a good effort and lots of decisions resulted after much discussion. Among these were that two 3.5 Mc. crystals should be reground to 7148 Kc. and 7168 Kc., and another of 7171 Kc. be made available for the 20 mx band, both for use by 4WI. Also concerning frequencies, we hear a member in a visit to VK3 land has dropped a couple of hints to try to keep 7105 Kc. clear on a Sunday morning during the 4WI broadcast.

The meeting appointed Vince 4VJ organiser of this year's Convention which will be held on April 13, 14 and 15 at Alexandra Headland on our famous and just as sunny near North Coast. Council also decided that in future, receipts will not be posted unless requested, but members' names will be published in QTC in line with modern business practice to save cost. No move is to be made by the present Council to organise a dinner.

Stan 4SA is the organiser of the Jamboree of the Air this year—that event near the end of the year that brings to the microphone again voices of some Amateurs rarely heard, as well as paving the way for new members. The event this year is certain to be a great success. In Rockhampton, Frank 4FN has sought approval for a mass radio set-up in the city using umpteen pieces of radio equipment, three Scout dens, and three v.h.f. links. He, Hal 4DO, and Lance Bickford are meeting district Scoutmasters soon to make preliminary arrangements, and there's talk of even applying for a special call sign.

For the following, our inward QSL man, Jack 4JF, might have some interesting pieces of material about 5 in. by 3 in.: 4ZRH, 4ZHO, 4ZDA, 4ZDJ, 4ZCH, 4ZEL/Mobile, 4ZAW, 4ZNS, and 4ZAO. Also 4SR, 4HQ, 4OL and ex-4ORL. He also has plenty of our Queensland special cards for you to send around the world telling of the Sunshine State.

Keen interest in Amateur Radio is being shown by 20 chaps who have started an A.O.C.P. instruction course being conducted for the

W.I.A. by the Northern Command Signals Amateur Radio Club at the Kelvin Grove Depot on Thursday nights. Instruction is being given by Ian 4ZCI, Col 4ZBQ, Brian 4ZAP and Brian 4UW. The club hopes all will finish the course and there'll be a 100 per cent. pass in the July exam.

Alan 4SS is proposing to transmit Morse sessions on Sundays between 0745 and 0900, and 1830 and 1930, and on Wednesdays 1830 to 1930. Proposed frequencies are either 3671 or 3510 Kc. Besides running the DX notes for "A.R.," Alan is now supplying DX news over 4WI. Help make his job easier by sending snippets to him direct.

Just in case members have forgotten, unless your dues have been paid for the year, this will be your last "A.R." for some time. Don't have a single gap in your collection of "A.R." volumes by paying now.

Seems there's not much doing among many groups up the coast this time, at least no news that's been worth putting down on paper to send to the sub. for publication. We do hear, however, a Burdekin Radio Club has been formed up north.

Former sub. for these notes, Jack 4JE, is off to places overseas soon for about 12 months so has relinquished the job. He said bowls and radio are his hobbies and he intends finding time for both while away.

Another former scribe, Peter 4PJ, has some advice for the so-called Perfect Scribe among the moonshiners and the crow-eaters. He says poor old PanSy said he doesn't get a thing in reward from the Editor. However, if he's worth half as much as Peter, then Peter is willing to pay him half his salary. Peter adds he's got a big gun in the battle now, and someone will go down in flames under the verbal barrage of a pro. shorthand scribbler and typewriter puncher, presumably meaning me. 73, Don.

SOUTH COAST

Holidaying on the Gold Coast was Royce 4ZRH, who called on Bill 4WS for a good rag-chew, and a visit to his shack brought some 6 mx QSOs in spite of noisy conditions. As a break from work and study, Peter 2ZVD motor cycled north as far as Gympie to visit Eric 4XR and the boys there, and called in to 4WS at Wonderful Southport on the way back. He was interested in Queensland nuts (the edible variety) and, shame, had to be diverted back over the border to Murwillumbah to gather a crop at the QTH of Eddie 2BB. Another victory to VK2 land. However, Peter was so impressed by Queensland he intends returning when time permits. 73, 4WS.

CAIRNS

The Cairns area has had an upsurge of 6 mx activity. Up to now, the band has not been used, but now there is Rick 4ZWL who claims the honour of working the only DX, Bill 4ZWG, Arthur 4SM who listens on his three-tube super-regen. rx but as yet has no tx, and myself, Bazil 4ZW. Those interested in a contact should tune up about 50.7 Mc. every night about 7 p.m., that high because that's where the crystals multiply to.

Bill 4ZWG now has his four element beam in the air, and after much putting up and pulling down again and pulling wires hither and yon with my assistance (?) and cutting off the bottom, it at last stayed in a vertical position and that's where it's stopped so far. VK5 please note. Noted your remarks about your blood pressure going up. Sorry OM, I didn't realise you would take it so hard. Jealousy is a curse, isn't it? Fancy an old man like you being envious of my ability to RUN around to the local post office to pay my licence.

All still looking forward to a visit from Claude 4UX, but he went and got sick while on holidays. Poor arrangement. Arthur 4SM is specially looking forward to seeing him as they knew each other many years ago, but have not seen each other for 35 years. Imagine the tales they'll be telling for 24 hours before the talk pace slackens. But the warning is never to ask Claude how to make bread. He once was a baker and starts off muttering his favorite recipe—two kero. tins of water, a sack of flour, four lbs. of coarse salt, etc. 73, 4ZW.

TOWNSVILLE AND DISTRICT

I have been on annual leave for the past month. Conditions on 20 mx have been extra good and 15 was not to be sneezed at. Was pleased to contact two ex-Townsville Hams recently. Peter ex-4LU, who now is 2IT, and Nick ex-4WT. Nick hasn't applied for a VK2 call as yet. He has his tx going and is busy trying to convince the R.A.A.F. at Richmond that it would be to their advantage to loan him a rx. VR4CB arrived in Townsville early in the month of Jan. and was looked after by some of the gang there. He could only stay one night, but on his way home to the Solomon Islands he will be staying for several days in the area.

Visited Alan 4BE recently and admired his s.s.b. gear. Joe 4OJ still very busy with his h.c. station and doing lots of study, or so he tells me. My spies tell me that George 4GS is very seriously considering drilling a few more holes in his rx chassis. From what I understand, George has now finished with YLs. So there is a reasonable chance that he may have his rx finished before the next attack of YL-itis. Ross 4RO has only the power supply for his low freq. rig to finish and will then be on with 150w. 80-10 mx. He is also building a 150w. p.a. for his 6 mx rig. Ellis 4ZEA is building a 2 mx rig, at least that is what he told me, but I have noticed him on quite a number of occasions, driving around town with attractive companions in his car. Be warned, Ellis, take notice of what has happened to George 4GS.

4ZDG is busy building some 6 mx gear. It is possible that Ross, Sale and Ellis may have gear ready for the N.F.D. Frank 4CW is leaving early in March for N.S.W. and has great chunks of wire netting to stop flying stones from smashing his wind shield. Not certain whether he will have mobile gear with him or not. He did tell me that his car radio goes well, providing the car is not moving, otherwise it gives out with lots of crackles, etc. 4RW is due back from his overseas trip at the end of February and will be writing these notes again, starting with April "A.R."

The most important news of the month in this area is that another radio club has been formed. It meets in Ayr on the last Wednesday of each month and is called the Burdekin Radio Club. It will be affiliated with the W.I.A., application form and subscription being already, at time of writing, sent away. Members number 21 and the first meeting, when the club was formed, was held at the home of 4UX. The office-bearers for the ensuing 12 months are: President and Class Manager, Claude 4UX; Vice-Presidents: Joe 4OJ and Norm 4ND; Secretary, John McKenzie; Treasurer, Frank 4ZFA; Committee: Frank 4CW, Gale 4ZDG and Bill Summers; "Tail Twister," Kev McIntosh.

The Townsville Radio Club originated this office in their club and for the benefit of other clubs, it is a very good system to use in order to swell the coffers. Briefly, the "Tail Twister" fines members for breaches of conduct and even if a member is extra good, he can still be fined for being so pure, so you can't win.

That's the lot for this month. 73, 4UX.

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SOUTH AUSTRALIA

The VK5 monthly general meeting for Jan. was held as usual in the Club Rooms to a little below average attendance. I hasten to add that it is not unusual for the first meeting in the new year to lack a full attendance of members, probably because most of us are a little light on in the pocket after the Xmas spending spree and the associated festivities, and are quite happy to stay at home and lick our wounds.

Our President, John 5JC, was in the chair and the guest speaker for the night was none other than our Federal Councillor, Pugnacious Phil 5NN, who took as his subject, "The design and Operation of Linear Amplifiers." Being one of the aforementioned Xmas casualties (spending the rise in the pay so readily given me by "Scrooge" 3ZFQ—Jan. "A.R.") I am not in much of a position to comment on the lecture at length, but my spies tell me that it was up to Phil's usual high standard and thoroughly enjoyed by all present. The applause which followed the vote of thanks so ably proposed by Clive 5PE must have indicated in no uncertain manner to Phil just how much his lecture was appreciated.

Had a ring from David 2ZDL who was on a round trip, VK2-3-5 and thence back home via Broken Hill. Was apparently enjoying himself, but was a little disappointed at the lack of 2 mx signals in our fair city. He had been listening on that band whilst driving around, but it reminded him of Mother Hubbard's cupboard.

Talking of VK2s, I bumped into 2SQ who was vacationing in VK5 and had called out to the Best Broadcasting Station in VK looking for one of our announcers, Jim Crago, who has been up in Suva for some years now. 2SQ, who is with Mullard in Sydney, told me that he has been inactive on the bands for some time now but is feeling the urge to come back on once again.

A correspondent writes to point out that 5KS, referred to in these notes recently as "name unknown," is Ron Sedunary, formerly of Port Pirie, and at the moment of writing, a school teacher on holidays. He is not sure if he will be sent back to Renmark after the said holidays, and although he has some gear at his QTH he has not been heard on the air, apparently too busy with that surfboard he recently constructed.

Renmark has a budding Amateur in the person of a Dutchman named Bob Marcussen, who has made application to sit for the next exam. and we all hope that he will be successful.

Had a query as to whether my brother-in-law, Inky 5WF, is still on the air. The answer is not at the moment; is too QRL at new QTH!

Tom 5TL, that canny descendant of the Scottish race, recently thought that he had secured a suitable mast for "free". He found an acquaintance with some outsize bamboos, and selected one about 4 inches through the butt and about 25 feet long. It took two to carry it home, and Tom was all prepared to shove it up in the air immediately, but found to his disgust that he would have to tie it to the back fence for three months or so, until it dried out straight. He has been rushing in and out of the house every hour or so checking against white ants, thieves, borrowers, birds and prospective fishermen, so much so, that his shoe leather bill will almost be as much as a 4 x 4 oregon mast would have cost. Hoots Mon!

Frank 5MZ, VK5's gift to hospitals, doctors and chemist shops, is at the moment of writing spending a quiet and restful holiday at Tumby Bay. He sent me a postcard of Tumby, just to rub it in, and tells me that there are plenty of mermaids about. That settles it! If one of those mermaids just mentions a cup of tea and scones, down he will go and spend the rest of his days (and nights) sitting on a throne, complete with crown and trident! Mrs. Bentley, please, please keep an eye on him, give him a bucket and spade, or something!

Tom 5AQ noticed at the meeting looking fit and well and apparently looking forward to his coming shift to Port Augusta from Leigh Creek. But for the fact that I am getting to the bottom of the paper, I would write a lot more on this joker, because he insinuated at our last meeting that now he is on s.s.b., he would not get a mention in these notes. Pooh, Pooh! I am not stuck up, I even give Arch 5XK a mention—now and again!

Bill 5ZD is passing through a period of b.c.i. and is unlucky enough to strike a no-co-operation-attitude as well. Bad luck Bill. 5ZAH has returned from an extended tour through the wilds of VK2 and VK3, and appears unscathed. Howard 5XA is reported as being somewhat put out with my paragraph regarding his liking for 6 mx. It appears that he has been criticising 6 mx as a smoke screen to disguise the fact that he is busy building some 6 mx gear!! He has just returned from holidays at Victor Harbour. Harold 7MZ has been over in VK5 for a holiday visit and called in to see 5LL, 5DS and 5ZAH. Oliver 2AZX was another Interstate visitor in VK5 this month, and as he was mobile on 7 Mc. he was busy working all of the locals.

I heard a station on 7 Mc. the other Sunday afternoon, on s.s.b. at that, and after desolving, revolving or resolving, or whatever it is one is supposed to do, I thought that it was Dave 5DS. However the grapevine tells me that it was probably Joe 5RC. Anyway, it was certainly a Scotchman, of that I am certain, but, and I repeat, but can you think of anything to beat a Scotchman on s.s.b.? Of course they could have been playing the bagpies on s.s.b. Oh no! Spare me that. That would be the end.

Al or John (suit yourself) 5ZC was duly married this month, on the 13th at that (he walks under ladders, breaks mirrors, etc., etc., purely as a hobby) and among those present at the ceremony were 5LL, 5MZ, 5SS and 5FM. Now I know that you are not going to believe me when I say this, but twenty minutes before he was due to walk up the aisle, he was heard on 7 Mc. asking the station that he was in contact with, to QRX as he was getting married in some 20 minutes. How nonchalant can one get? All right, you don't believe me, but I have witnesses, a statutory declaration forged by a well known Amateur, and my own integrity to prove it.

It is no secret in VK5 of the feud which exists between Council and myself, and it is no secret that both sides never miss a chance to strike a blow to keep the feud going. Up until now, the feud has been fought with a certain amount of decency on both sides, but this month Council, without the slightest warning, struck below the belt. Imagine how I felt when I opened a letter from them and read that the Council of the VK5 Division thanked me for my assistance rendered at the Xmas Social, and to make matters worse, signed by the Secretary, Pat 5US. How low can they get? How can I criticise them any more? Every time that I prepare a sizzling indictment against them, up before my eyes will come their letter. Oh dear, oh dear, woe is me, woe is me! Joking aside however, cynical and blase as I am reputed to be, I got quite a kick out of the letter, the first of appreciation that I have ever received in my long and happy asso-

ciation with the Division, and I feel that there should be more of it. To others, of course.

Ses 5GP heard in QSO on 7 Mc. with Bert 5BB, but as they were both engaged in a highly technical discussion on beams, ratios, etc., etc., I did not stay long with them. Both signals standing out from the evening QRM like lighthouses, and good quality, too, if that counts for anything these days. Jack 5JS returned from his extended tour into some of the hither-to unexplored regions of VK3, and full of the hospitality en route. Now he is on the look out for mobile gear.

The postman delivered a letter to me today and went off into hysterics as he usually does when he delivers a letter from Lucindale. Inside the letter was a QSL card from VK-5XK/VK8, giving me a report of 5 by 9 plus 25 db. on my s.s.b. signals, dated 1st April, 1971. Ha-ha-he-he, how funny can you get, my s.s.b. signals, let me get at him. He added further insult to injury by telling me that he worked a Len Parsons (W3LLG) from Norfolk Island and continued the insults by saying the Len certainly let the Parsons name down. He turned out to be a real gent!! Arch signed the letter 73, and said bury the axe—he did not say where—but I could have told him.

Our President, John 5JC, long may he reign, has asked me to devote a few words in this month's notes regarding the payment of subscriptions for 1962-63, which by the time you are reading this (always assuming that you do read this) will have fallen due. The old practice used to be to post out to the members an account, but as postage started to rise the practice has been to include an account in the Divisional Journal which is issued around February. Last year, it was remarkable how many members did not see the account in the Journal, and until each one was contacted personally, the membership dues were in a decidedly sick condition. By this time the magazine had ceased to be delivered, and confusion reigned supreme. Now, to make a short story longer, all this amounts to the fact that your subscriptions are now due, so what about coughing up. No subscriptions—no function for the Division—and worst of all, no salary for me. What's that? How much do I get paid? Well, if you must know, NIX—plus plenty of abuse!

About this time last year my Amateur licence fell due, and I put on a winge in the notes because I had to pay it in a special place and could not pay it at a Post Office in my suburb. This paragraph turned out to be one of the best "Kites" that I have ever sent up, the reaction from all points of the compass exceeding even my optimistic hopes. I have averaged about one letter on the subject each month ever since, I even received two this month, one from Bart! 4ZW and the other from Jeff 3AHM, all telling me that they had succeeded where I had failed and advising me to pluck up my courage and give it another go. All right, I will! My fees will be due in February and probably as you read this I will be in duress vile, with Doc 5MD personally feeding me with the bread and water, and at the same time whipping me with the cat-o-nine-tails! Don't think that I am retracting my original paragraph. Oh no, after all I have never received a letter from a VK5 who suggested that he had been able to pay his licence fee anywhere else but at the Receiver of Public Moneys. Don't forget, the notes were written only for VK5 consumption! 73, de 5PS (PanSy to you).

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TASMANIA

We extend our deepest sympathy to Geoff 7ZAS following the death of his mother two days before Christmas last. On the same day, Alan 7MY took his father to hospital, and I understand that the gentleman is still there with no improvement.

Congratulations to Ted 7EJ on his election to the office of Federal Councillor for this Division, following upon the very close election with only one vote separating the two candidates.

The club room fund raising committee was delighted with the success of the function at Somerless Farm, held on 24th January. A sum in excess of £10 was added to the fund.

VK7 has an s.s.b. station once again. John 7AG has a tx of this type working very well indeed on the 80 mx band, where he can be worked almost nightly. The call sign of 7V8 can also be heard regularly on 80 mx c.w. Ian 3V8 is over here for a period, probably about six months and he welcomes someone to talk to.

January was the month for portable operation, and we heard 7JB, 7CT, 7RL, 7FJ and 7KH at various times during the month.

Remember that the Annual General Meeting and Dinner will be held on Saturday, 24th March, 1962, the ladies are invited to the Dinner so bring them along, and make this event the success it was last year. Also, remember to vote for the elections for Council, your vote is important.

Brian 7ZBE has recently returned, reluctantly, to work after his holiday trip to New Zealand. He has brought back some exquisite ideas on how to cook food, and we have threatened to appoint him the Institute cook, on pain of death if his culinary efforts should not live up to their promise. We were delighted to welcome George 7XL and Mrs. Groves among us. They have been holidaying in Hobart, staying with 7EJ and Mrs. Cruise.

Our existing club rooms have had a face lift over the past month due to the efforts of a few devoted workers. Our sincere thanks are due to them in this regard. The annual subscriptions are now due. Kindly forward the amount you owe to ease the job on the poor old Secretary. He does not get paid for the work he does on our behalf.

At the January meeting of the V.h.f. Group a most remarkable tape, recorded by W1HDQ and dealing with modes of v.h.f. propagation, was played. One lesson which must be learnt from this tape is that c.w. is an absolute must for achieving consistent results. 73, 7ZZ.

HAMADS

Minimum 5/-, for thirty words. Extra words, 2d. each.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 36, East Melbourne, C.2, Vic., by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

A SALE of surplus gear: 3BZ Rx, 200 Kc.-30 Mc., 230v., £13. 1,000 volt 500 mA. supply, disposals, ideal for 813 Tx, £25. Emerson 21" T.V., excellent order, £50. 7-9 Mc. Command, modified, £8½. 4-5.3 Mc. Command, with mixer and 9 Mc. xtal, £8½. Clarion Tape Recorder, as new, accessories, £40. Much junk at assorted prices, no reasonable offer refused. Wanted to Buy: H.F. Coil Boxes for HRO, top price paid. Ian Macmillan, VK3CS, 1 Norfolk Rd., Surrey Hills, Vic. Phone WF 1347.

BARGAIN: GBL516 16 mm. Sound Projector, £75. Philips TA101D Signal Generatoar, £12. R.F. Unit 26, £4, or exchange for good communication receiver or tape recorder. VK6RE, 10 Craddock Road, Merredin, W.A.

BENDIX Frequency Meter with V.R. Power Supply, perfect, £45. 1,150 volt heavy-duty Power Supply, ex U.S.A.F. (RA-348). Approximately two feet square, £15. Lance, VK3DS, 123 Webster, St., Ballarat, Vic.

BUY: Command Transmitter Rack. Russell 34-9268 or (home) 74-4469 Vic.

COMMUN. Receiver R.C.A. AR88, 13 tubes, bandspread all bands including 28 Mc. Good sideband receiver. A1 order. G. B. Lance, VK3DS, 123 Webster St., Ballarat, Vic.

FOR SALE: AR7 £45; converted 522 transmitter £5; also other items to value of £10-£20 to be given to the buyer of both. Phone JU 5195, VK3ZFN.

FOR SALE: Eddystone "750" D/Conversion Rx, £100. Central Electronics S.B. Slicer with AP1 Adaptor, £40. Panadaptor BC-1031-A, 455 Kc., mint cond., £45. Heathkit Sig. Gen., SG8, £19/10/0. Heath 3" t.v. Oscilloscope, £37. A.W.A. Car Phone Tx, not working, £3/10/0. Rx with Geloso Front-End, D/Conv., not working, £18. 3BZ Tx, £4. Kingsley S9er, £5. 6" C.R.O. Indicator Units, 230v. a.c. p/supply, £5. 200 mA. Chokes, 22 and 122. 12v. Vib./Trans. 600/60,000 ohm Line Trans., all 5/-. 100 watt Public Address Amp. with p/supply, no valves, £20. Command Rx 3-6 Mc. and 6-9 Mc., £4/10/0 each. Dynamotor, 12v. d.c. input, 550v. 200 mA. output, £2/10/0. Power Trans., 750 aside, 300 mA., £4/10/0. AR8 Rx, £10. Type S P/Supply, £10. Six el. 2 metre and 4 el. 5 metre Beams, 300 ohms, £6 each. Geloso V.F.O. in cabinet, £11/10/0. A.W.A. 6 volt Rx, B/C and S/W, 6-18 Mc., £8. Set of four EF50s and sockets, resistor and cond. on same chassis, 3 units, 12/6. T. Straughair, 185 Stephen St., Yarraville, Victoria.

FOR SALE: Geloso Transmitter G222R, perfect order, mike included, £90. Rotary 3 element Beam, 20 metres, height 45 ft., base 6 ft. square, steel construction, includes a.c. rotating mechanism, selsyns and azimuthal direction indicator, transformers and feed lines, cad. plated flexible guy wires. This unit is easily dismantled and erected, main tower is in two sections, permanent steel ladder on highest section facilitates maintenance, £90. Both units are in perfect order and combine to give superlative DX performance on 20 metres. Mobile Transmitter, 40 metres, commercial finish, final 2E26, mod. pr. 6AQ5s, driven 12AT7, includes loaded whip (imported U.S.A.) for mudguard mounting, £23. Inspection of all units will be welcomed. John Morris, 224 Burwood Road, Burwood, Vic. BW 1264. VK3AES.

FOR SALE: Hallicrafter SX28 Superskyrider Receiver, 0.5 to 42 Mc., two r.f. stages, push-pull output, matching speaker, handbook, £70. VK3QF, 155 Kilby Road, East Kew, Vic.

FOR SALE: Hallicrafter SX28A Communication Receiver in excellent condition with auto transformer and instruction manual. Speaker optional. VK3LC, 1013 High St., Armadale, Vic., Phone BY 3918.

SELL, Swap: A.S.T. Supertracer, C.R.O., Mod., Pwr. Supplies, Valves, Parts of all Types, V.h.f. Gear, Panadaptor 450-470 Kc. i.f. No dealers. 97 Birkett St., Bedford, W.A.

TRANSMITTER in Rack. 100TH final. Bandswitched exciter, etc. Huge power supplies. 12 Meters (Weston), £40. Ditto 813 final, exciter and supplies, £35. Fantastic value. VK3DS, 123 Webster St., Ballarat, Vic.

WANTED: One BC348 Receiver or one of equal performance. Ring JJ 4016 after 7.0 p.m. G. Jessup, 36 Boomerang St., Turramurra, Sydney.

WANTED TO BUY: "Short Wave Magazine" copy August 1958. F. G. Ball, VK3YS, 60 Shannon St., Box Hill, Vic., WX 2213.

CRYSTALS ALL THESE FREQUENCIES £2 EACH

3.5 Mc. Ham Band:

DC	3515	FT	3555
FT	3535	DC	3560
FT	3536	DC	3562
DC	3537	FT	3564
FT	3534	FT	3573
DC	3547	FT	3575
FT	3549	FT	3580
FT	3552	FT	3587
DC	3552	FT	3595

7 Mc. Ham Band:

Crystals of any frequency, £2.

50 Mc. Hand Band:

DC	8333.3	= 50 Mc.
DC	8383.3	= 50.3 Mc.
DC	8400	= 50.4 Mc.
DC	8416	= 50.5 Mc.
DC	8450	= 50.7 Mc.
DC	8483	= 50.9 Mc.
DC	8500	= 51 Mc.

144 Mc. Ham Band:

DC	8000	DC	8014
DC	8010	DC	8014.5
DC	8013	DC	8015
DC	8013.5	DC	8015.5

144 Mc. Ham Band (continued):

DC	8016	DC	8022.5	DC	8029.5
DC	8016.5	DC	8023	DC	8030
DC	8017	DC	8023.5	DC	8030.5
DC	8017.5	DC	8024	DC	8031
DC	8018	DC	8024.5	DC	8031.5
DC	8018.5	DC	8025	DC	8032
DC	8019	DC	8025.5	DC	8032.5
DC	8019.5	DC	8026	DC	8033
DC	8020	DC	8026.5	DC	8033.5
DC	8020.5	DC	8027	DC	8034
DC	8021	DC	8027.5	DC	8034.5
DC	8021.5	DC	8028	DC	8035
DC	8022	DC	8028.5	DC	8035.5
		DC	8029		

CONDENSERS

Superseal Paper Type:

0.047 μF. 1000v. 0.0033 μF. 600v.
0.0047 μF. 400v. 0.001 μF. 1000v.
ALL 6d. EACH

Metalpak Electrolytic Type:

25 μF. 25v.d.c.w. 2 μF. 150v.d.c.w.
2 μF. 200v.d.c.w. 2 μF. 250v.d.c.w.
and others.
ALL 6d. EACH

Electrolytic Chassis Mounting:

24 μF., 350 peak volts ..... **2/- each**
32 μF., 200 volts working ..... **2/- each**
25 μF., 40 peak volts ..... **2/- each**

Mica Condensers:

15 pF.	68 pF.	270 pF.
20 pF.	70 pF.	300 pF.
25 pF.	100 pF.	500 pF.
47 pF.	220 pF.	750 pF.
50 pF.	250 pF.	1000 pF.

ALL 9d. EACH

Metalpak Pig-Tail:

0.022 μF. Sprague ..... **1/- each**
0.0022 μF. Sprague ..... **1/- each**

VALVE SOCKETS

Ceramic 4-pin Valve Sockets, **2/- each**
„ 5-pin „ „ **2/- each**
„ 6-pin „ „ **2/- each**
„ 7-pin „ „ **2/- each**
7-pin Miniature Valve Sockets and Shields. New. **15 for £1.**
9-pin Valve Sockets, McMurdo, **9d. ea.**
Octal Valve Sockets ..... **1/6 each**

CO-AXIAL CABLE

100 ohm co-ax. cable, ⅜" diam., **2/- yd.**
98 ohm co-ax. cable, ⅜" diam., in 100 yard rolls **£5**, or **1/3 yard.**
72 ohm PT29M, single strand, ⅜" diam. **2/- yard.**
72 ohm, 3/16" diam., **2/- yard**, or 100 yard roll **£8/15/0.**
50 ohm co-ax. cable, ⅜" diam., **2/- yard** or in 100 yd. rolls **£8/15/0.**

We have stocks of the latest—
LOG BOOKS

COMMAND RX COIL BOXES

190 Kc. to 550 Kc., new, **5/- each**

SAKURA CIRCUIT TESTER

Model TR-6S

Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges—d.c. volts: 6, 30, 120, 600, 1,200v.; a.c. volts: 6, 30, 120, 600, 1,200v. D.c. current: 60 μA., 6 mA., 60 mA., 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.2 μF., 0.0001-0.01 μF. Inductance: 30 3,000H. Decibels: —20 to +17 db. (0 db.—0.775v.—600 ohms). Dimensions: 4¼" x 6¼" x 2¾". Weight: 1.3 lbs.

Price £9/10/0 inc. tax.

POWER TRANSFORMERS

410 volts aside, 80 mA., 12.8v. at 1.25a., 5v. at 2a. **40/-.**

FERROCART VACUUM TUBE VOLTMETER

V.T.V.M. ..... **£19/17/6** inc. tax
H.V. Probe ..... **£3/5/0** inc tax
R.F. Probe ..... **£2/10/0** inc. tax

ECKO NO. 88 TRANSCEIVER

Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves, 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.
To Clear, £6/10/0 each

HOOK-UP WIRE

P.V.C. insulation, 0.028. Red or white.
100 yd. Rolls, 10/- Roll.

RECORDING TAPE

TMK "Syncrotape" 7" Rolls, PL-12 (Standard) **£1/16/6**
TMK "Syncrotape" 7" Rolls AC-18 (Long Play) **£2/10/6**

V.H.F. RECEIVERS

Type R89/ARN-5A. 300 Mc. Valves: seven 6AJ5s, two 12SN7s, one 12SR7, one 28D7, six relays, and three crystals of 6522.9 Kc. As new. **£5 each.**

MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.

Specifications:
D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
A.c. volts: 0-10, 50, 100, 500, 1,000.
D.c. current: 0-50 μA.; 25, 250 mA.
Resistance: 0-60K ohms; 0-6 meg.
Capacity: 0.01-0.3 μF. (at a.c. 5v.); 0.0001 - 0.01 μF. (at a.c. 250v.).
Decibel: minus 20 db. plus 22 db.
Output range 0-10, 50, 100, 500, and 1,000.
Battery used: UM3 1.5v. 1 piece.
Dimensions: 3¼ x 4½ x 1-1/8 in.

Complete with internal battery, testing leads and prods.

Price £5/17/6 inc. tax.

1155 GENEMOTORS TYPE 34A

Input 9.3v., output 225v. at 110 mA. Complete with relays and filters, in case. Weight 30 lbs. **19/6 each.**
5/- handling charge.

SPECIALS!! SPECIALS!!

High or Low Imp. **Headphones, 12/6 pr.**
U.S.A. Ampenol **Coaxial Plugs, 5/- ea.**
Morse Key and **Buzzer Sets**, new, **12/6**
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English **Filter Chokes**, 40 mA., 100 ohm resistance ..... **3/6 each**
"Scope" Soldering Iron, to clear, 45/-; complete with transformer, £4/10/0.
Carbon Microphones ..... **12/6 each**
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Vibrators, Oak/M.S.P. 6v. synchronous 7-pin AV5211R ..... **£1 each**
Octal Plug and Socket, American Ampenol, in metal screw case, **8/6 set**

8 Mc. MINIATURE CRYSTALS

Band-edge market Miniature Crystal and socket, **£2.**

LSG11 SIGNAL GENERATOR

120 Kc.-390 Mc.

Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (xtal not supplied), 1 to 15 Mc. 100, 117 or 230v. a.c. input, 50/60 c.p.s. Size: 7½ x 10¾ x 4½ in. Weight: 6 lb.

Price £16/17/6 inc. tax.

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